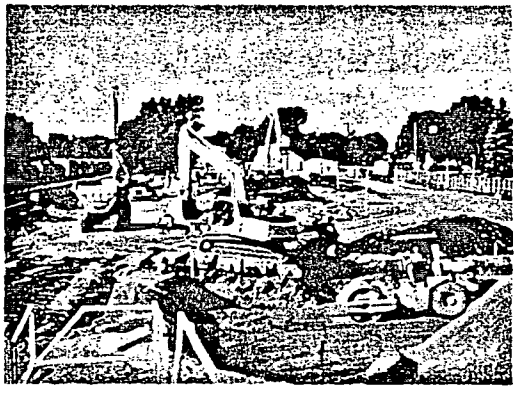
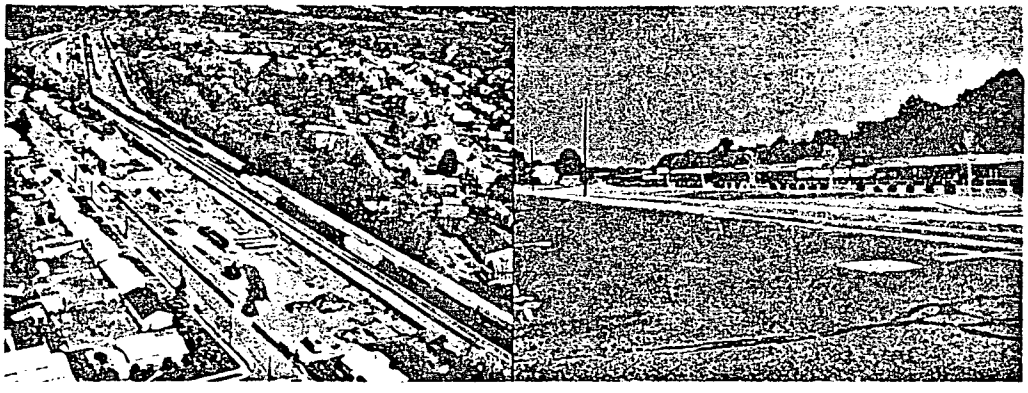
U. S. Army Corps of Engineers
Kansas City District

Federal Creosote Superfund Site
OU1 Phase 1 – Lagoon B
Remedial Action Report
July 2005





REMEDIAL ACTION REPORT

OU1 PHASE 1 REMEDIAL ACTION
FEDERAL CREOSOTE SUPERFUND SITE
MANVILLE, NEW JERSEY

CONTRACT NO.: DACW41-01-D-0001

PREPARED FOR

USACE - KC DISTRICT
601 East 12th Street
Kansas City, MO 64106

PREPARED BY

CDM FEDERAL PROGRAMS CORPORATION
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July 2005

REMEDIAL ACTION REPORT
RECORD OF PREPARATION, REVIEW, AND APPROVAL
FEDERAL CREOSOTE SUPERFUND SITE
MANVILLE, NEW JERSEY
OU1 PHASE 1 REMEDIAL ACTION

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This report has been prepared in accordance with EPA OSWER 9320.2-09A and will be used as a basis for development of the site Project Closure Report.

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List of Acronyms and Abbreviations

ACGs	Analytical Cleanup Goals
ACM	Asbestos Containing Materials
AIHA	American Industrial Hygiene Association
ATSDR	Agency for Toxic Substances and Disease Registry
bgs	below ground surface
BTEX	Benzene, Toluene, Ethyl Benzene, and Xylene
BTU	British Thermal Unit
CAPE	CAPE Environmental Management Inc.
CDM	CDM Federal Programs Corporation
CIH	Certified Industrial Hygiene
CQCP	Contractor Quality Control Plan
CRZ	Contamination Reduction Zone
CY	Cubic Yard
DAR	Design Analysis Report
DSWP	Discharge to Surface Water Permit
DOT	Department of Transportation
EE/CA	Engineering Evaluation/Cost Analysis
EMDS	Environmental Management and Design Services, Inc.
ERT	Environmental Response Team
EPA	U.S. Environmental Protection Agency
f/cc	Fibers per Cubic Centimeter
FFS	Focused Feasibility Study
GPD	Gallon per Day
GPPC	General Petroleum Products Cleanup
GPR	Ground Penetrating Radar
GPM	Gallons per minute
IATL	International Asbestos Testing Laboratory
ID	Inner Diameter
J/C	Joint Compound
LDR	Land Disposal Requirements
MS	Matrix Spike
MSD	Matrix Spike Duplicate
msl	Mean Sea Level
MTBE	Methyl Tertiary Butyl Ether
NAEVA	NAEVA Geophysics, Inc.
NJAC	New Jersey Administrative Code
NIOSH	National Institute for Occupational Safety & Health
NJDEP	New Jersey Department of Environmental Protection
NJPDES	New Jersey Pollutant Discharge Elimination System
NPL	National Priority List
O&M	Operation & Maintenance

OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PAH	Polycyclic Aromatic Hydrocarbons
PAMP	Perimeter Air Monitoring Plan
PCM	Phase Contrast Microscopy
PFS	Pre-engineered Fabric Structure
PLM	Polarized Light Microscopy
ppb	Parts per Billion
ppm	Parts per Million
PRAC	Pre-placed Remedial Action Contractor
PSE&G	Public Service Electric & Gas
QA	Quality Assurance
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
RPM	Remedial Project Manager
ROD	Record of Decision
SAP	Sampling and Analysis Plan
SES	Sevenson Environmental Services, Inc.
SCSCD	Somerset County Soil Conservation District
SOP	Standard Operating Procedures
SSHP	Site Safety & Health Plan
SVOC	Semi-Volatile Organic Compounds
TCE	Trichloroethylene
TCLP	Toxicity Characteristic Leaching Procedure
TEM	Transmission Electron Microscopy
TOC	Total Organic Carbon
TPH	Total Petroleum Hydrocarbons
TRRF	Tullytown Resource Recovery Facility
TSDF	Treatment Storage and Disposal Facility
TSS	Total Suspended Solids
USACE	U.S. Army Corps of Engineers
UTS	Universal Treatment Standards
VOC	Volatile Organic Compounds

Section 1

Section 1
Introduction

U.S. Army Corps of Engineers (USACE) Kansas City District provided technical support to the U.S. Environmental Protection Agency (EPA) during the Operable Unit (OU) 1 Phase 1 (Lagoon B) remediation at the Federal Creosote Superfund site. In support of these efforts, the USACE contracted with Sevenson Environmental Services, Inc. (SES) to perform the remedial construction in accordance with the project design documents. The work was performed under Pre-Placed Remedial Action Contract (PRAC) DACW41-01-D-0001. This contract consisted of two work orders. Work order No. 1, Test Pit construction and Work Order No. 2, Lagoon B remedial action construction. As part of the remedial action, the structures within the Lagoon B properties on East Camplain Road were demolished. Demolition work was performed by CAPE Environmental Management, Inc. (CAPE) Contract No. DACW41-00-D-0021.

The objective of the project was to remediate the Lagoon B source material and contaminated soil that may pose risks to human health and may continue to be a source of groundwater contamination.

USACE retained the services of CDM Federal Programs Corporation (CDM) to perform the remedial design and to prepare the remedial action report. The design was performance-based. Minimum requirements were presented to allow the contractor to develop the methods and procedures for accomplishing the design objectives. All work was performed in accordance with site-specific project plans prepared by the remedial action contractor. Each plan was submitted to USACE for approval prior to commencement of field activities.

CAPE mobilized to the site in October 2000. Demolition activities started on October 11, 2000 and substantially completed in December 2000. Representatives from EPA, USACE, and SES attended a pre-construction conference conducted at the Rustic Mall in December 2000. Test Pit construction activities were completed in January 2001. Remedial action construction started in October 2000 and was completed in June of 2002. On December 18, 2002, upon correction of all construction deficiencies and submittal of outstanding project document, representatives of EPA, USACE and SES attended a final inspection.

1.1 Remedial Action Report Objectives

The objectives of this report are summarized below:

- Provide a summary of pertinent background information including site description, history, and discussion of OUs
- Present a detailed chronology of events for the remedial action effort
- Present an extended summary of the project performance and construction quality control standards instituted by SES to ensure the successful completion of the remedial action
- Present summary of pre-remedial and remedial action activities completed over the course of the project
- Present a summary of unusual events encountered during the completion of site activities
- Present a summary of lessons learned
- Present a summary of the project final inspection
- Present a summary of SES's operation and maintenance obligations relative to site restoration
- Present a summary of the project costs

1.2 Site Description

The Federal Creosote Superfund site, which includes a 137-property residential community known as the Claremont Development and a commercial area known as the Rustic Mall, is located in the Borough of Manville, Somerset County, New Jersey. The site is over 50 acres and is bordered to the north by the Norfolk Southern Railroad, to the southeast by the CSX Railroad, to the south by East Camplain Road, and to the west by South Main Street.

The site is located on a topographic high within the Raritan River watershed system. The Raritan River passes approximately 2,000 feet north and east of the site, and the Millstone River, a tributary of the Raritan, is located approximately 1,200 feet to the southeast. The confluence of the two rivers lies approximately one mile east of the site.

1.3 Site History

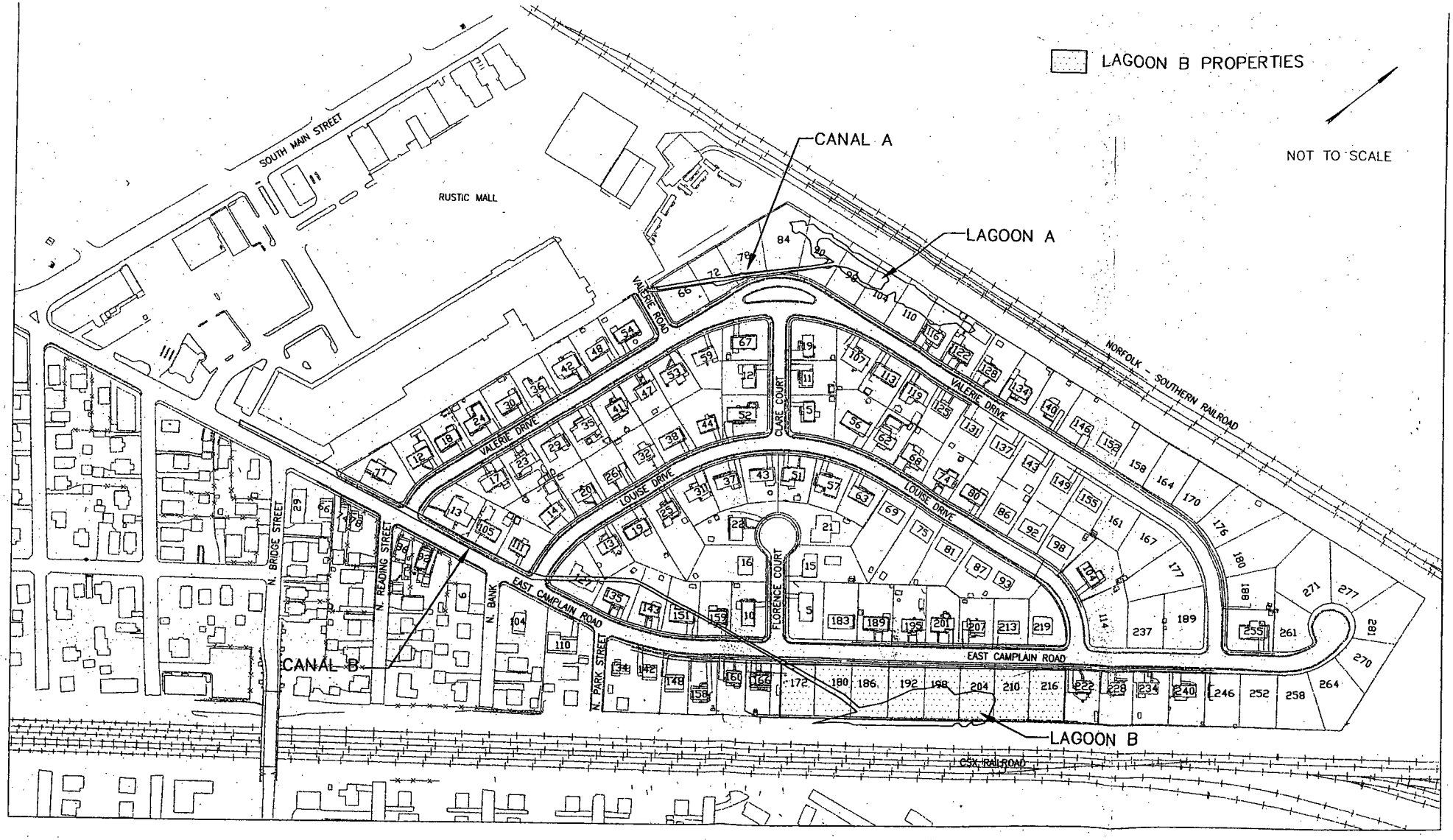
The Federal Creosote site was the site of the former American/Federal Creosote Wood Treatment facility, which operated from approximately the 1910s to 1957. The plant operated as a wood (e.g., railroad ties) treatment facility that used creosote as a preservative. Historic aerial photographs indicate that the main wood treatment facility was located in the southwest corner of the site, where the Rustic Mall is currently located. The wood treatment facility included several large buildings, a pressure cylinder, and five vertical storage tanks.

Two lagoons and associated canals that serviced the facility were located in the north central and southeast sections of the site. The lagoons and canals are believed to have contained liquid waste generated from the creosote wood preservation operation. The lagoon in the north central section of the site and its associated canal are referred to as Lagoon A and Canal A, respectively. The lagoon and canal in the south portion of the site are referred to as Lagoon B and Canal B, respectively. Additionally, several impoundments, standing liquid areas, and stained areas were identified northeast of the main treatment facility. Figure 1-1 shows the lagoons and canals superimposed on a map of the present development.

According to historic aerial photographs, the central portion of the site was mainly an open lumber storage yard, containing stacks of wood material such as untreated lumber, poles, beams, and railroad ties. Darker-toned, apparently treated wood was located in an area referred to as the drip area, which occupied the northern portion of the open lumber storage yard, and along the northern rail spurs and loading platform.

Beginning in 1962, the 137 residential unit Claremont Development was constructed in the areas of this site that were the lagoons, canals, drip areas and lumber storage areas. The lagoons and the canals were reportedly filled in, without removing the waste from the lagoons, during the residential community development. The southwestern portion of the site was developed into the Rustic Mall.

In April 1996, the New Jersey Department of Environmental Protection (NJDEP) responded to an incident involving the discharge of an unknown liquid from a sump located at one of the Claremont Development residences on Valerie Drive. A thick, tarry substance was observed flowing from the sump to the street. In January 1997, the Borough of Manville responded to a complaint that a sinkhole had developed around a sewer pipe in the Claremont Development along East Camplain Road. Excavation of the soil around the pipe identified a black tar-like



FEDERAL CRESOTE SUPERFUND SITE
MANVILLE, NEW JERSEY

CDM

FIGURE 1-1
REMEDIAL ACTION REPORT
OU1 PHASE 1 - LAGOON B

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material in the soil. Subsequent investigations of these areas revealed elevated levels of contaminants consistent with creosote.

In October 1997, EPA's Environmental Response Team (ERT) initiated a site investigation limited to properties believed to contain creosote contamination based on analysis of historic aerial photographs as well as input from residents. This investigation included the collection of surface and subsurface soil samples at select locations within the residential development. The result of this investigation indicated that the contamination was extensive, uncontrolled, and had impacted sediment, soil and groundwater in the area.

From February through April 1998, EPA collected over 1,350 surface soil samples on 133 properties in and adjacent to the Claremont Development in order to determine if an immediate health risk existed. EPA identified some properties with surface soil in yards containing elevated levels of creosote posing a long-term health risk. As a result, EPA applied topsoil, mulch, seed and sod to 11 of the properties that contained elevated levels of creosote in surface soils, to limit the potential for exposure.

In February 1999, the Agency for Toxic Substances and Disease Registry (ATSDR) completed a health consultation that assessed the public health impact from direct contact with the surface soils. ATSDR concluded that the surface soil concentrations of lead, arsenic and Polycyclic Aromatic Hydrocarbons (PAHs) do not pose a public health hazard.

In November 1998, EPA initiated a remedial investigation and feasibility study (RI/FS) to more fully characterize the nature and extent of contamination at the site. Subsurface soil sampling started in December 1998 and was completed in March 1999.

The site was proposed for the National Priorities List (NPL) on July 27, 1998, and was formally placed on the NPL on January 19, 1999.

The data from the 1997/1998 investigation conducted by ERT indicated that the canal and lagoon areas are the major sources of soil and groundwater contamination in the Claremont Development. EPA then prepared an Engineering Evaluation/Cost Analysis (EE/CA) and a focused EE/CA, to evaluate remediation options for the lagoon and canal source materials. The focused EE/CA concentrated on the preferred remedy of demolition of structures and excavation of the lagoon and canal material, with off-site treatment and disposal.

On September 28, 1999, EPA signed a Record of Decision (ROD) that selected a remedy to address the principal threats posed by buried lagoon and canal source materials in the residential portion of the site. The ROD designated the remediation of the lagoons and canals as OU1. EPA addressed the remaining site areas under separate Operable Units, according to the following:

OU 2 – Residual Levels of Creosote Contamination in the Claremont Development

OU 3 – Rustic Mall Contaminated Soil, Groundwater, Surface Water, and Sediment

1.4 USACE and EPA Project Management

USACE Kansas City District was responsible for the design and construction. USACE New York District was responsible for construction oversight. USACE provided full-time, on-site technical representative throughout the duration of the project. USACE representatives were responsible for assuring the project was executed in accordance with design documents and site-specific plans. USACE on-site representatives maintained a direct line of communication with SES's project management team and EPA Region II Remedial Project Manager (RPM). Weekly project meetings were held at the site throughout the duration of the field activities. Health and safety, work progress, field observations, problems and conflicts, schedule, submittals, quality control, changes, cost tracking, and community relations were discussed during these meetings.

Key project personnel included:

Rich Puvogel	EPA Region II - Remedial Project Manager
Todd Daniels	USACE - Kansas City District Project Manager
Gene Urbanik	USACE - New York District - Resident Engineer
Neal Kolb	USACE - New York District - Team Leader

Section 2

Section 2
Operable Unit Background

During the design review meeting on January 5, 2000, the design process for OU 1 was divided into three phases, according to the following:

- Phase 1 – Lagoon B
- Phase 2 – Lagoon A, Canal A
- Phase 3 – Canal B

The objective of this phased approach was to align the design and construction schedule with the schedule for the real estate transactions (that included permanent and temporary relocation of residents), and funding of the project, which impacted the remedial construction, while maintaining EPA's goal of beginning construction in the summer of 2000. The demolition of the Lagoon B properties on East Camplain Road, plus 127 East Camplain Road, was separated from the remediation contract to help meet this goal.

This report covers the Lagoon B remedial action, which is Phase 1 of OU 1 and includes the following properties:

172 East Camplain Road
180 East Camplain Road
186 East Camplain Road
192 East Camplain Road
198 East Camplain Road
204 East Camplain Road
210 East Camplain Road
216 East Camplain Road
CSX Railroad Right-of-Way
Rustic Mall Parking Lot (Support Zone)

The ROD for OU1 specified excavation of source material from the canal and lagoon source areas, and shipment of creosote waste to a facility for treatment prior to final disposal. A summary of background information from the historic investigations is presented below.

2.1 Geology

2.1.1 Regional Geology

The site is underlain by approximately 25 to 35 feet of unconsolidated sediments of glaciofluvial origin, which in turn are underlain by Late Triassic siltstone and shale.

Stanford (1992) has mapped unconsolidated sediments in the vicinity of the site above altitude 50 feet relative to mean sea level (msl) as Upper Raritan Terrace Deposits. These Middle Pleistocene sands and gravels, which form a terrace about 20 to 30 feet above the present Raritan River alluvial plain, were associated with 60 to 100 feet of weathering and down-cutting of bedrock in both main and tributary valleys during the Illinoian glacial event. Regionally, these deposits consist of sand and pebble gravel, with minor silt, clay and cobbles. Total thickness in this unit of up to 50 feet has been reported (Stanford, 1992).

The subsequent Millstone Terrace Deposits (altitude 40 to 50 feet above msl) surround the Upper Raritan Terrace. Stanford correlates the Millstone Terrace with the Middle to Late Pleistocene Sangamon glacial event. Deposits with lithology similar to the Raritan Terrace have been observed up to 30 feet thick, forming a terrace about 10 to 15 feet above the present floodplain of the Millstone River. Recent alluvial deposits, consisting of up to 20 feet of sand, silt and clay with minor organic material, surround deposits of the Millstone Terrace.

Bedrock beneath the site is the Passaic Formation, one of the sedimentary formations of the Newark Basin of New Jersey, which contains a thick sequence of Late Triassic and Early Jurassic non-marine sedimentary and igneous rocks. The predominant lithology is reddish-brown siltstone, mudstone, shale and occasional sandstone of fluvial origin, although grey to black lacustrine sequences of mappable scale have been observed in the Passaic Formation throughout the central Newark Basin. Faulting is relatively common, particularly in the western portions of the Passaic Formation outcrop. Rocks of the Passaic Formation typically contain three prominent fracture sets, one parallel to bedding planes and two sets of high angle fractures. Of the high angle fractures, a primary set is generally sub-parallel to strike, and a secondary set is perpendicular to strike.

2.1.2 Site Geology

The deposits underlying the site, particularly in the areas of Lagoons A and B, were described as silt, which was then underlain by a sandy gravel that extended to bedrock (Weston, 1998).

The lithologies of the deposits have been characterized in detail during the Focused Feasibility Study (FFS). The lithologic descriptions suggested the following sequence (from ground surface to bedrock) of deposits to be typical at the site:

- Fill
- Sand and Gravel
- Silt and Clay
- Sand and Gravel (with some silt and clay layers and seams
- Shales (bedrock)

The fill varies in composition across the site and predominantly contains a poorly sorted mixture of gravel, sand, silt and clay that varies in color from yellowish brown to brown to reddish brown. The unit also contains lesser amounts of coal/ashes, asphalt, concrete, and brick fragments. The fill unit fluctuates in thickness across the site from a minimum of approximately two feet to a maximum of approximately five feet, but typically the thickness does not exceed four feet. Topsoil, which is part of this unit, is commonly found to be six to eight inches thick. The fill unit appears to be continuous underneath the Claremont Development.

Underlying the fill unit is a sand and gravel deposit. The deposit may generally be described as a fine to coarse sand with little to some fine to medium gravel and trace amounts of silt. The color is typically brown or reddish brown. The typical thickness reported for the unit range from three to six feet, and rarely does the thickness exceed seven feet. This sand and gravel unit appears to be continuous within the boundaries of the Claremont Development. Immediately south and southeast of the development in the Lost Valley residential area, this unit is not present, due to a decrease in topographic elevation.

A deposit of silt and clay underlies the sand and gravel unit. The unit is best described as a dark yellowish brown silt layer that is two feet thick with an underlying reddish-brown clay layer that is one foot thick. In many instances the silt layer is mottled or gleyed (additionally, the lower reaches of the overlying sand and gravel deposit are also sometimes gray). Within the boundaries of the Claremont Development, the thickness of the unit fluctuates from a minimum of four inches to a maximum of nine and one half feet. Additionally, both grain sizes (silt overlying clay) were not encountered at every boring location, however the deposit of silt and clay is believed to be relatively continuous beneath the development.

A second sand and gravel unit lies beneath the fine-grained unit. The unit is generally described as a reddish-brown fine to coarse sand with a trace to some

fine to medium gravel, and trace amounts of silt; occasional seams and layers of well-sorted sand are encountered. Within the unit a discontinuous layer of silt and clay can be traced. Referenced to depth, the fine-grained layer occurs near the mid-section of the sand and gravel unit. Additionally, at the base of the unit a discontinuous layer (consisting of grain sizes from clay to cobbles) that is believed to be till has been identified. The thickness of the sand and gravel deposit (including the fine-grained layer and the basal till) fluctuates across the site from approximately 15 feet to 25 feet, with the typical thickness in the range of 19 to 23 feet. The basal till (which has been identified based on grain size, grain angularity and penetration rate increase) is approximately one foot thick and is likely not continuous.

The bedrock color is typically reddish brown and shows lithologies typical of the Passaic Formation, with alternating red-brown siltstone, sandstone and shale. The rock was described as highly to moderately weathered, friable and soft. The bedrock surface varies in altitude beneath the development from approximately 12 to 17 feet above msl, with most of the altitudes near 15 feet below ground surface (bgs). No site-wide slope trends of the bedrock surface are apparent.

2.2 Hydrogeology

2.2.1 Regional Hydrogeology

The Passaic Formation has been extensively developed for groundwater supplies. Wells capable of yielding tens to hundreds of gallons per minute have been completed throughout much of the formation, generally at depths of 200 to 500 feet (Vecchioli, 1965). The rocks have little primary permeability. Virtually all groundwater movement occurs through the intersecting fracture sets. Rocks of the Passaic Formation typically contain three prominent fracture sets, one parallel to bedding planes and two sets of high angle fractures. Of the high angle fractures, a primary set is generally sub-parallel to strike, and a secondary set is perpendicular to strike. It has long been recognized that the Passaic (Brunswick) aquifer is strongly anisotropic, with the axis of maximum hydraulic conductivity generally parallel to bedding strike. Although the origin of the anisotropy is clearly related to the fractured nature of the aquifer, there has not been universal agreement over the immediate cause.

No uses of groundwater from the unconsolidated unit in the immediate vicinity of the site are known and, with the limited available drawdown, it is unlikely that a usable quantity of water could be obtained from the unit. Fluvial gravel deposits along the Raritan River have been used for water production, including potable water use. The Borough of Manville owns gravel wells near the Raritan River, which were formerly used for potable water.

2.2.2 Site Hydrogeology

The site hydrogeology is described in detail in the Groundwater, Surface Water and Sediment Draft Remedial Investigation Report, September 2000. An unconfined (water table) aquifer with a saturated thickness of 10 to 14 feet was observed in the unconsolidated sediments at depths from about 14 to 21 feet below grade. Locally, isolated perched water zones have been identified at depths of 6 to 10 feet below grade. Beneath the site, the groundwater surface occurs in the deep sand and gravel unit. It appears likely that groundwater in the uppermost zone of the bedrock is in direct hydraulic connection with the saturated zone in the unconsolidated sediments.

2.3 Summary of Field Investigation Data

CDM conducted a pre-design field investigation for OU 1 under Base Contract DACW41-99-D-9009 with the USACE, Technical Design for Remedial Selection and Pre-design Planning. The sampling program was developed to characterize the nature and extent of creosote product material associated with the historic lagoons, canals and exit trench areas. To accomplish this objective, CDM defined the difference between stained soil and product. For the purposes of this investigation, product was considered to be above 30% creosote based on the definitions below.

1-5% There was a creosote odor and/or low HNu hits. There was creosote sheen on the grains, but the concentration wasn't high enough to discolor the grains.

10% There was enough creosote on the soil grains to almost completely cover the grains and masks their original color. There was no creosote in the pore spaces.

15% There was enough creosote on the soil grains to completely cover the soil grains and masks their original color. There was no creosote in the pore spaces.

20% The creosote thickly covered the soil grains, completely masking the original color and starting to fill the pore spaces.

25% The creosote thickly covered the soil grains, completely masking their original color and product was evident in the pore spaces. If you hold the sample, the creosote would not flow out of the pore spaces.

30% The creosote thickly covered the soil grains, completely masking their original color and the pore spaces were half full of creosote. If you hold the sample, the creosote would not flow out of the pore spaces.

40% The creosote thickly covered the soil grains, completely masking their original color and the pore spaces were almost full of creosote. If you hold the sample, the creosote would flow out of the pore spaces.

50% The creosote had completely covered the grains and filled the pore spaces, but the core was still matrix supported. If you hold the sample, the creosote would flow out of the pore spaces.

70% There was more creosote than matrix. The creosote was free flowing, but there was still 30% debris in the creosote.

85% There was significantly more creosote then matrix. The creosote was free flowing. There was almost no matrix in these areas.

The field activities included drilling shallow and deep soil borings and collecting soil samples. Prior to the drilling activities, a geophysical survey of drilling locations was performed to locate buried utilities and objects. The drilling, sampling, and borehole abandonment procedures are outlined in the USACE-approved "Final Sampling and Analysis Plan for Technical Assistance for Remedy Selection and Pre-Design Planning at the Federal Creosote Site Manville, New Jersey" (SAP), (CDM, September 1999). The following sections summarize the field operations performed during this investigative phase.

2.3.1 Geophysical Survey

Prior to initiating the drilling program, a geophysical utility location and feature survey was conducted within a ten foot radius of each proposed soil boring location by NAEVA Geophysics, Inc. (NAEVA) of Tappan, New York, under subcontract to CDM. NAEVA used a comprehensive suite of geophysical tools to identify and locate the presence of underground utilities or buried objects. At each location, the following geophysical tools were used:

Fisher TW-6 Pipe and Cable Locator to identify detectable buried electrically conductive conduits or piping that may have no surface expression;

Radiodetection RD600 Utility Locator to locate the surface trace of a variety of buried utilities;

Metrotech 50/60 Power Line Locator to detect conduits that carry 60-cycle current;

3M Dynatel 2250 Cable Locator to detect the surface trace of telephone and other narrow gauge wiring; and

Sensors and Software NOGGIN 250 Ground Penetrating Radar (GPR) system with a 250 MHz antennae.

The survey was used to identify buried utilities and objects so that they were not struck or punctured with the drilling tools. The results of the surveys were marked on individual property maps. CDM performed field oversight and health and safety monitoring during all geophysical survey field activities.

2.3.2 Shallow and Deep Soil Boring Program

The objective of the soil boring program was to characterize the horizontal and vertical extent of creosote product deposits associated with the lagoons, canals and the exit trench. To achieve this objective, CDM, working closely with USACE and EPA, identified a series of shallow and deep borings locations. The boring locations were chosen to supplement previously collected data to better define the vertical extent of contamination in the lagoon and canal areas and to determine the proximity of contamination to homes in the Claremont Development. The shallow and deep soil boring logs and individual property maps for the Lagoon B properties are included in Appendix A of the DAR (CDM, September 2000).

The soil borings were installed using a trailer-mounted hollow stem auger rig, a truck-mounted hollow stem auger rig, a tripod, or a bucket auger. The choice of method was governed by the location of the boring, the depth of the boring and rig access. All field investigation at OU1 Phase 1 properties took place with the residences still occupied.

For the purpose of the pre-design investigation, shallow borings generally extended to a depth of 14 feet or shallower, and deep borings extended to bedrock surface, approximately 30 to 35 feet bgs.

In addition to defining locations of visibly contaminated material during the soil boring program, samples were collected for analytical testing, and tested for PAHs using EPA Method 8270.

2.3.2.1 Shallow Soil Borings

A total of 60 shallow soil borings were advanced into the subsurface during the site pre-design investigation. Seven of these borings were located within the OU1 Phase 1 property boundaries. Split-spoon samples were collected continuously at

two-foot intervals and the lithology was recorded. The depth of the borings and the sampling intervals were determined for each location based on data from the pre-design investigation and previous investigations. Each borehole was grouted closed with a cement-bentonite mixture after removing the drilling tools from the subsurface. The locations were restored to pre-existing conditions.

2.3.2.2 Deep Soil Borings

A total of 30 deep soil borings were drilled to bedrock during the site pre-design investigation. Eleven of these borings were located within the OU1 Phase 1 property boundaries. The deep borings were advanced with four and one quarter-inch (nominal) inner diameter (I.D.) hollow stem augers. The sampling intervals were determined for each location based on data from previous investigations. Each borehole was grouted closed with a cement-bentonite mixture after removing the drilling tools from the subsurface, and the locations were restored to pre-existing conditions.

To provide the geotechnical information required for the design of temporary earth retaining structures, Shelby tubes and composite geotechnical samples were also collected from D1018 at 110 Valerie Drive, D1006 at 198 East Camplain Road, and D1007 at 42 Valerie Drive. Atterberg limits, standard proctor, and two point CU triaxial shear test series were performed following ASTM D4318, D698, and D4767 respectively. Of these borings, D1006 is located at a Lagoon B property. The composite geotechnical samples were collected during boring installation in a 5-gallon plastic bucket. An attempt was made to segregate the contaminated material from the samples. The Shelby tubes were collected from the silt and clay layer. The tubes were collected immediately after the borings were completed from a separate hole within 5 feet of the boring location. All the Shelby tubes had complete recovery.

2.3.3 Topographic Survey

The locations of the pre-design borings were surveyed and added to the existing topographic site base map prepared by GEOD Corporation (GEOD) (REAC and RI/FS borings) and Zambrana Engineering Inc. (Pre-Design borings). Both firms were licensed New Jersey land surveyors. The boring locations are shown on the contract drawings.

2.3.4 Asbestos Survey

Under contract with CDM, Environmental Management and Design Services, Inc. (EMDS) conducted a limited asbestos survey of the Lagoon B properties. The survey included visual observations, sampling and laboratory analysis of suspected asbestos-containing materials (ACM). The survey was conducted in December 1999. Due to access issues, 198 E Camplain Road was surveyed in May

2000, following the departure of the residents. The purpose of the survey was to assess the presence of ACM within the houses to be demolished. Bulk samples were randomly collected from suspected materials at each house. The collected samples were analyzed by KAM Consultants located in Long Island City, New York. The samples were analyzed by Polarized Light Microscopy (PLM) or Transmission Electron Microscopy (TEM) as described in 40 CFR 763. A summary of the analytical results and the resulting quantities of ACM based on the collected samples is presented in Table 2-1. The survey revealed that approximately 7,360 ft^2 of exterior siding, 180 ft^2 of floor tile, and 1,375 ft^2 of roofing materials contained asbestos.

Since the houses were occupied during the survey, destructive sampling was limited. As result, several suspected building ACM were not sampled or analyzed. It was then advised that confirmatory sampling be performed on those materials prior to demolition activities. A list of the building materials that required sampling prior to demolition is included in Section 2.0 of the asbestos survey report (EMDS, December 1999).

Table 2-1 ACM Analytical Results Summary

Sample ID	Location	Material	Asbestos Content (%)	Quantity (ft^2)
BLK-7	216 E Camplain Rd	Roofing Material	8	1375
BLK-9	210 E Camplain Rd	Roofing Material	0	-
BLK-12	180 E Camplain Rd	Roofing Material		-
BLK-15	172 E Camplain Rd	Roofing Material	0	-
BLK-22	192 E Camplain Rd	Roofing Material	0	-
BLK-22	192 E Camplain Rd	Roofing Material	0	-
BLK-4	216 E Camplain Rd	Drywall	0	-
BLK-8	210 E Camplain Rd	Drywall	0	-
BLK-10	180 E Camplain Rd	Drywall	0	-
BLK-13	172 E Camplain Rd	Drywall	0	-
BLK-20	192 E Camplain Rd	Drywall	0	-
12-07-99-02	204 E Camplain Rd	Drywall	0	-
BLK-5	216 E Camplain Rd	Exterior Siding	10	380
BLK-6	216 E Camplain Rd	Exterior Siding	0	1230
BLK-11	180 E Camplain Rd	Exterior Siding	3	1600
BLK-14	172 E Camplain Rd	Exterior Siding	NAPS	950
BLK-21	192 E Camplain Rd	Exterior Siding	NAPS	1600
12-07-99-05	204 E Camplain Rd	Exterior Siding	5	1600
BLK-19a	192 E Camplain Rd	Floor Tile	2.5	90

Sample ID	Location	Material	Asbestos Content (%)	Quantity (ft^2)
BLK-19b	192 E Camplain Rd	Floor Tile Mastic	<1	90
12-07-99-01	204 E Camplain Rd	Floor Tile	0	-
12-07-99-03	204 E Camplain Rd	Ceiling Tile	0	-
12-07-99-06	186 E Camplain Rd	Ceiling Tile	0	-
12-07-99-07	186 E Camplain Rd	Ceiling Tile	0	-
12-07-99-04	204 E Camplain Rd	Joint Compound	0	-

2.4 Design Criteria

The ROD for OU1 specified excavation of source material from the canal and lagoon source areas, and shipment of creosote waste to a facility for treatment prior to final disposal. The creosote wastes were identified based on visual observations of creosote product and soil saturated with creosote product.

Prior to completion of the OU1 Phase 1 design, EPA developed site specific cleanup goals for residually contaminated soil. These cleanup goals for residually contaminated soil were documented in the OU2 ROD. For descriptive purposes of the design, the cleanup goals for residually contaminated soil are referred to as the Analytical Cleanup Goals (ACGs) and are provided in the table below.

Table 2-2 Analytical Cleanup Goals

Chemical Parameter	Action Level (ppm)
Benzo(a)Pyrene	0.66
Benzo(a)anthrancene	0.9
Chrysene	90
Benzo(b)fluoranthene	0.9
Benzo(k)fluoreanthene	9
Indeno(1,2,3-cd)pyrene	0.9
Dibenzo(a,h)anthracene	0.66

Contaminated soils were considered as potentially F034 waste, based on the "contained-in" policy under RCRA (Resource Recovery and Conservation Act) and determined by comparing sample results to the ACGs.

2.5 Remedial Design Documents

Based upon the investigation data and established design criteria, CDM developed the design documents, including DAR, drawings, specifications, and cost estimate. The design documents were performance-based, that is, minimum

excavation horizontal limits and depths were presented on the design drawings, with the exception of the excavation support system, which was designed by CDM and submitted to CSX Railroad to gain early approval. Excavation limits accounted for removal of contaminated material based on the presence of product and soil contaminated to levels exceeding the ACGs.

Several factors such as adjacent structures and properties, proximity to railroads etc. were considered to determine the horizontal limits of the excavations. Generally, excavation depths ranged from one foot to 12 feet bgs. However, source material as defined in the ROD was removed up to a depth of approximately 35 ft bgs (the depth of bedrock) in certain areas.

2.5.1 Site Specific Plans

SES developed and submitted site-specific work plans to address all major project elements. The plans were developed in accordance with the project design documents. USACE reviewed and approved the plans prior to implementation. The following plans were submitted:

- Site Safety and Health Plan (including Activity Hazard Analysis Plan)
- Accident Prevention Plan
- Asbestos Abatement Plan
- Environmental Protection Plan
- Perimeter Air Monitoring Plan
- Sampling and Analysis Plan
- Contractor Quality Control Plan
- Temporary Site Facility Layout Plan
- Security Plan
- Excavation and Handling Plan
- Traffic Control and Transportation Plan
- Waste Management Plan
- Demolition Plan
- Soil Erosion and Sediment Control Plan
- Dewatering Plan
- Road Resurfacing Plan
- Odor Control Plan

Section 3

Section 3
Remedial Construction Activities

Lagoon B remedial construction activities started in October 2000 and were completed in June 2002. A summary of the major construction activities completed at the Federal Creosote site during the Lagoon B remedial action is presented below.

3.1 Site Demolition

The demolition of the Lagoon B properties was separated from the remediation contract. Under contract with USACE (Contract No. DACW41-00-D-0021), CAPE performed the demolition work, which consisted of the clearing of all above ground features such as houses, garages, sheds, trees, shrubs, etc. Demolition activities started on October 11, 2000 and were substantially completed on December 6, 2000. Final walk through inspection was conducted on December 18, 2000. CAPE prepared the as-built (red-line) drawings presented in Appendix A by hand sketching features altered during the demolition on drawings provided by CDM.

3.1.1 Asbestos Abatement and Disposal

As recommended in the EMDS asbestos survey report, additional ACM confirmatory sampling was performed by CAPE prior to the commencement of the asbestos abatement. The collected samples were analyzed by PLM using National Institute for Occupational Safety and Health (NIOSH) Method 9002. Laboratory analysis was performed by International Asbestos Testing Laboratory (IATL) located in Mt Laurel, New Jersey. The results of the collected confirmatory samples are summarized in Table 3-1.

Subsequent to the confirmatory sampling and prior to the demolition of the houses, CAPE removed and disposed of all ACM. Removal activities were performed in accordance with all applicable Federal, State, and local regulations and the project specifications. A total of 120 CY of ACM including floor tiles, sheet vinyl, siding, etc. was removed from the site and disposed of at Waste Management Tullytown Resource Recovery Facility (TRRF) in Tullytown, PA. Copies of the waste manifests are included in Appendix B.

Photo 3-1 – ACM Shingle Removal

Table 3-1 ACM Confirmatory Sampling Summary

Sample No.	Location	Type of Material	Asbestos Content (%)
204-0101,02,03	Living Room	Gypsum & J/C	< 1
204-0201,02,03	Kitchen	12" Floor Tile	< 1
204-0301,02,03	Kitchen	Linoleum	-
204-0401,02,03	Living Room	Textured Ceiling	-
210-0501,02,03	Living Room	Gypsum & J/C	-
210-0601,02,03	Kitchen	12" Floor Tile	1.2
216-0701,02,03	Living Room	Gypsum & J/C	< 1
216-0801,02,03	Basement	12" Floor Tile	1.7
216-0901,02,03	Kitchen Hall	Linoleum	-
216-1001,02,03	Kitchen	Linoleum	-
216-1101,02,03	Kitchen	Vapor Barrier Sheeting	85 (Chrysotile)
198-1201,02,03	Living Room	Gypsum & J/C	< 1
192-1301,02,03	Living Room	Gypsum & J/C	< 1
192-1401,02,03	Kitchen	Linoleum	-
192-1501,02,03	Foyer	12" Floor Tile	-
180-1601,02,03	Living Room	Gypsum & J/C	< 1
180-1701,02,03	Kitchen	Linoleum	20 (Chrysotile)
180-1801,02,03	Porch	12" Floor Tile	-
180-1901,02,03	Hall	Linoleum	25 (Chrysotile)
180-2001,02,03	Kitchen	Linoleum	-
180-2101,02,03	Kitchen	12" Floor Tile	< 1
180-2201,02,03	Dining Room	Mastic	-

Sample No.	Location	Type of Material	Asbestos Content (%)
186-2301,02,03	Roof	Shingles & Tar Paper	-
186-2401,02,03	Kitchen	12" Floor Tile	-
186-2501,02,03	Kitchen	Linoleum	-
186-2601,02,03	Living Room	Gypsum & J/C	< 1
186-2701,02,03	Stairwell	Mastic/Cork Wall Tile	-
172-2801,02,03	Living Room	Gypsum & J/C	< 1
172-2901,02,03	Living Room	Textured Ceiling	< 1
172-3001,02,03	Kitchen	Linoleum	-
172-3101,02,03	Kitchen	Linoleum	20 (Chrysotile)
198-3201,02,03	Roof	Shingles & Tar Paper	-
204-3301,02,03	Roof	Shingles & Tar Paper	-
127-3401,02,03	Kitchen	Gypsum & J/C	< 1
127-3501,02,03	Bsmt Kitchen	9" Floor Tiles	10 (Chrysotile)
127-3601,02,03	TV Room	Gypsum & J/C	-
127-3701,02,03	Lower Kitchen	12" Floor Tile	-
127-3801,02,03	Lower/Upper Landing	12" Floor Tile	-
127-3901,02,03	Lower Kitchen	12" Floor Tile	< 1
127-4001,02,03	Lower Bath	Linoleum	-
127-4101,02,03	Lower Storage	9" Floor Tiles	10 (Chrysotile)
127-4201,02,03	Lower Storage	12" Floor Tile	-
127-4301,02,03	Stairs/Foyer	Mastic/Brick Tile	-
186-4401,02,03	Exterior	Cement Board	25 (Chrysotile)
198-4501,02,03	Exterior	Cement Board	25 (Chrysotile)
172-4601,02,03	Exterior	Cement Board	20 (Chrysotile)
127-47,02,03	Living Room	Gypsum & J/C	< 1
186-4801,02,03	Living Room	Gypsum & J/C	< 1
192-4901,02,03	Living Room	Gypsum & J/C	< 1
210-5001,02,03	Exterior	Cement Board	35 (Chrysotile)
216-5101,02,03	Garage Roof	Shingles & Tar Paper	-
127-5201,02,03	Exterior	Backing Board	-
216-5301,02,03	Roof	Shingles & Tar Paper	-
216-5401,02,03	Roof	Shingles & Tar Paper	-
216-5501,02,03	Roof	Shingles & Tar Paper	-
216-5601,02,03	Roof	Shingles & Tar Paper	-

3.1.2 Asbestos Abatement Air Monitoring

Air samples were collected prior, during and subsequent to the abatement activities. Daily personal air monitoring samples were also collected during abatement activities. Collected air samples were analyzed by PCM following NIOSH Method 7400, Revision 2 by IATL. Results of the laboratory analysis are included in Appendix C.

Background (prior to abatement) samples were collected within the vicinity of each abatement area. A total of 36 background samples were collected and analyzed. Laboratory analysis of these samples showed concentrations ranging from <0.0027 to 0.0036 fiber per cubic centimeter (f/cc).

Daily project air monitoring samples were collected inside and outside of each abatement area. A total of 61 samples were collected and analyzed. The results of the laboratory analysis showed that the maximum concentration of the samples collected during the abatement activities was 0.0082 f/cc which is below Occupational Safety and Health Administration (OSHA) acceptable concentration of 0.01 f/cc.

Subsequent to the abatement activities, each work area was visually inspected prior to the collection of the final clearance air samples. Aggressive clearance sampling techniques were utilized when collecting the final air samples. Final clearance samples were also analyzed by PCM. All collected final clearance samples showed results of less than 0.01 f/cc.

Daily personal air monitoring samples were also collected in accordance with OSHA. A total of 29 samples were collected.

3.1.3 Building Demolition

CAPE contract included the demolition of nine houses; eight in Lagoon B and one in Canal B. The following houses were demolished:

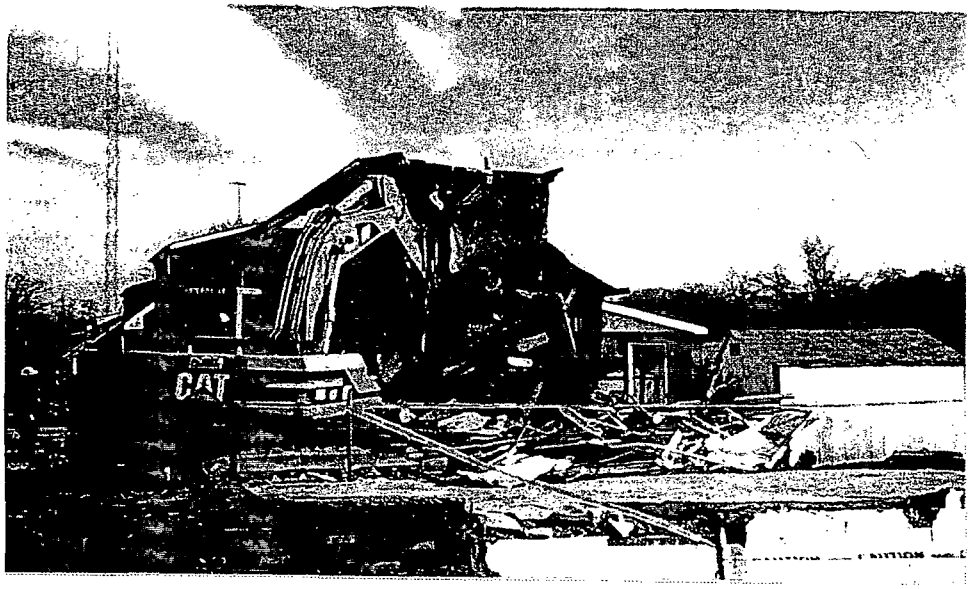
- 127 East Camplain Road (Canal B property)
- 172 East Camplain Road
- 180 East Camplain Road
- 186 East Camplain Road
- 192 East Camplain Road
- 198 East Camplain Road
- 204 East Camplain Road
- 210 East Camplain Road
- 216 East Camplain Road

Because of the gap in time between the demolition and the remedial action, the basements of the demolished houses were filled with crushed stone to mitigate an open-hole hazard.

Subsequent to the completion of the demolition activities, topographic survey of the Lagoon B properties was performed by Kennon Surveying Services, Inc., a New Jersey licensed surveyor. This survey was used to generate the demolition as-built drawings.

Photo 3-2 – Building Demolition

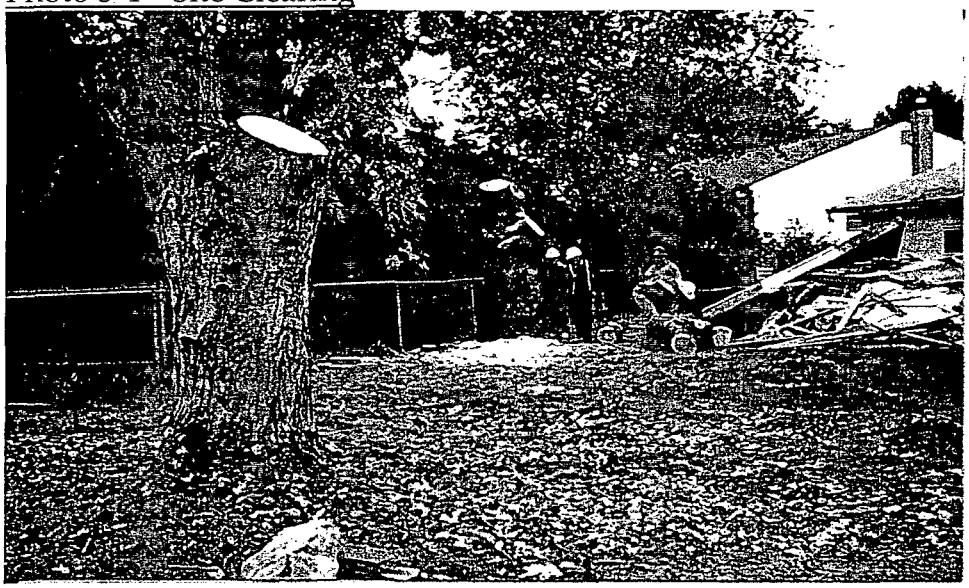
Photo 3-3 – Building Demolition



3.1.4 Site Clearing

Trees, bushes, vegetative and ornamental plants within the Lagoon B properties were removed. All structures were also demolished during the demolition phase of the construction.

Photo 3-4 – Site Clearing



3.1.5 Demolition Derived Waste Disposal

Apart from the ACM waste discussed in Section 3.1.1, demolition derived wastes were segregated into hazardous and non-hazardous waste streams. Non-hazardous wastes consisted of general demolition debris and vegetative wastes. Non-hazardous wastes were disposed of in a municipal waste disposal facility. Hazardous waste materials discovered during the demolition activities were transported to CycleChem, a licensed hazardous waste treatment, storage, and disposal facility (TSDF) ID # 0002200046 located in Elizabeth, New Jersey for disposal. Table 3-2 below summarizes the types and quantities of hazardous wastes that were disposed of as part of the Lagoon demolition contract. Copies of waste disposal manifests are included in Appendix D.

Table 3-2 Demolition Derived Hazardous Wastes Summary

Material	Quantity (gal)
Paint related wastes	200
Aerosol waste	55
Corrosive liquids	200
PCBs	5
Pesticides	5
Chemical process liquid	230

In addition to the demolition activities, CAPE also installed the perimeter security fence at the Lagoon B properties, 127 East Camplain Road, and the Support Zone in Rustic Mall. Since intrusive work and soil disposal were not

part of CAPE's contract, soil from the fence installation was stored in the basement of 172 East Camplain Road, and disposed during the remediation.

3.2 Site Preparation

In support of the Lagoon B remediation, USACE contracted with SES to perform the remedial construction. The work was performed under PRAC DACW41-01-D-0001. This contract consisted of two work orders. Work order No. 1, Test Pit construction and Work Order No. 2, Lagoon B remedial action construction. Prior to the beginning of the excavation activities, which were the focus of the remediation, site preparation activities including temporary facilities mobilization, erosion and sediment control, site security, etc. were performed. Summaries of these activities are presented below.

3.2.1 Temporary Facilities

Temporary support facilities were located within the Contractor support zone, in the north portion of the Rustic Mall, as shown on the contract drawings. The support facilities included six 12 feet by 15 feet trailers. One trailer was used by the EPA, another was designated to USACE, and a third trailer was used by Initial Security. The remaining three trailers were used by SES. Temporary water, sanitary, electric and telephone services were established. The support zone was completely secured with an 8 feet high chain link fence.

A decontamination pad was constructed within the Contamination Reduction Zone (CRZ) at the Lagoon B properties for personal and equipment decontamination. The pad was constructed using 6-mil polyethylene liner, berm containment, and water collection sump. The sump was equipped with an electric pump. Collected wastewater was treated at the on-site wastewater treatment plant prior to being discharged into the storm sewer system.

Crushed stone previously utilized to fill the basement of the demolished houses was subsequently used to construct temporary access roads adjacent to the excavation areas to facilitate truck loading. The roads were constructed by placing a 6-ounce non-woven geotextile on the existing surface and topping with a layer of 6 to 12 inches thick clean stone.

3.2.2 Pre-Construction Waste Characterization

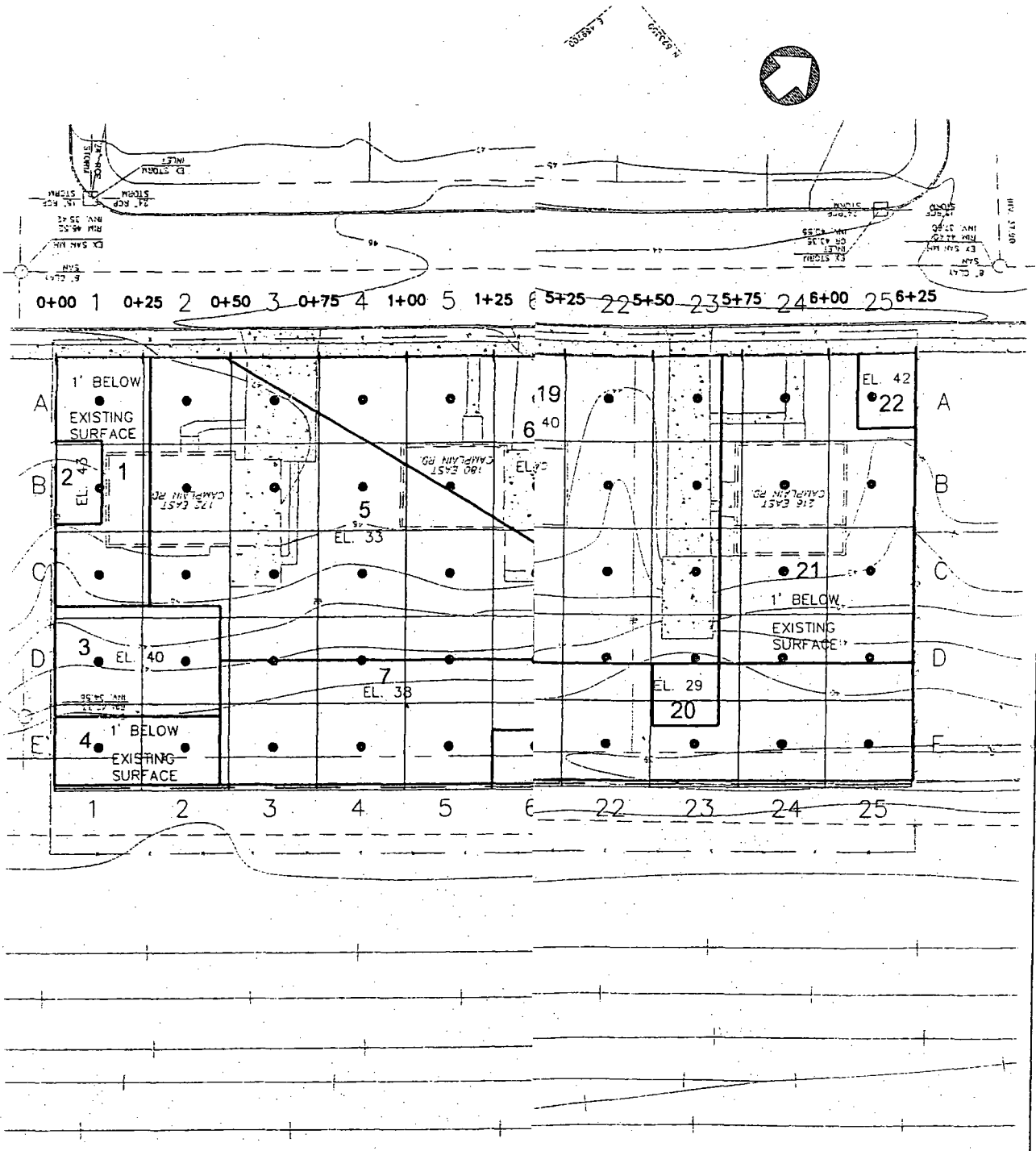
As part of its sampling and analysis plan (SAP), SES proposed and USACE approved the waste characterization sampling. The waste characterization sampling consisted of drilling and sampling conducted on a 25 feet by 25 feet grid pattern to characterize the waste for disposal. The locations of the boreholes are shown in Figure 3-1.

Waste characterization sampling was performed in accordance with the Subtitle C disposal facility's requirement, which consisted of collection and analysis of one sample for every 250 tons of material. The purpose of this sampling event was to refine the excavation limits as well as to determine the degree of contamination of the materials to be excavated for waste disposal purposes. Space constraints in the Lagoon B area restricted SES's ability to stockpile material, sample the stockpiles, and wait for results before disposal. Therefore in-situ waste characterization was conducted, which reduced the duration of the stockpiling of excavated materials, thereby reducing short term exposure to residents, and saving costs by reducing the overall project duration. Sampling and analysis in the areas to be excavated were divided into two zones. The upper 4 feet layer was sampled and analyzed for PAHs and full RCRA characterization and classification. Samples of the material below the upper 4 feet layer were analyzed for PAHs and BTU content only.

Upon completion of the sampling activities, Kennon Surveying Services, Inc. of Warren, New Jersey, a New Jersey licensed land surveyor, under subcontract agreement with SES surveyed the locations of the boreholes.

The results of this sampling event were utilized to segregate excavated materials. Materials segregation was accomplished as described in Section 3.9.

Photo 3-5 – Waste Characterization Sampling



PROPOSED PRE-EXCAVATION SAMPLE LOCATIONS		
FEDERAL CREOSOTE SUPERFUND SITE OU1 PHASE 1 LAGOON B Manville, New Jersey		
SEVENSON ENVIRONMENTAL SERVICES, INC.		
DRAWING 2-1	DATE:	3/7/01
	DRAWN BY:	C. BIGELOW
	CHECKED BY:	K. PAISLEY
	CAD FILE:	SAMPLE
	SCALE:	AS SHOWN

Figure 3-1 Waste Characterization Sample Locations

3.2.3 Soil Erosion and Sediment Control

SES developed a Soil Erosion and Sediment Control Plan for remedial activities in Lagoon B. The plan was submitted to the Somerset County Soil Conservation District (SCSCD) for certification. A copy of the plan including SCSCD approval letter is presented in Appendix E. To control offsite siltation/erosion that may result during precipitation events, the perimeter of excavation areas and the stockpiles were encompassed silt fence. Approximately 500 linear feet of silt fence was installed around the disturbed areas in Lagoon B. Storm water inlets were covered with filter fabric to prevent siltation of the system. Finally, a stabilized construction entrance, consisting of 2-inch stone, was constructed at the egress prompt of the Lagoon B excavation.

3.2.4 Site Security

As part of the site preparation activities, SES developed a site security plan. The plan was submitted to the USACE for approval. At the beginning of the project, site security was provided by Initial Security of Newark, New Jersey. During the course of the remediation, site security was subcontracted to ADT Security. During the demolition activities, site security was provided 24 hours a day and 7 days a week. Upon completion of the demolition, security guard was required to be onsite 16 hours a day on week days and 24 hours on weekends and holidays. During the course of the construction, SES personnel provided site security during regular working hours. Security guard was stationed in an office trailer located within the support zone. All visitors were required to sign-in upon entering the support zone.

3.3 Odor Control Evaluation

Odor control was a primary focus of the EE/CA and a major concern during the design. Prior to full-scale excavation, SES performed a test excavation and evaluated different odor control methods to contain or control emissions of undesirable odor that would result from the full-scale excavation activities.

Four contractors were given the opportunity to demonstrate their odor control technologies and products during the test pit evaluation. Two distinct types of odor control techniques were demonstrated; neutralization, which consisted of dispensing a neutralizing agent in the air by a distribution system surrounding the work area; and ground treatment, which consisted of applying an odor treatment product directly on the excavated soil. Table 3-3 summarizes the products utilized and their performance during the test pit evaluation.

Several sampling techniques were used to detect odor-causing compounds, including low volume/flux chamber, canister/flux chamber, real time organics and sulfides, and high volume PUF media sampling. With a detectable odor threshold value of 0.038 ppm according to the American Industrial Hygiene Association (AIHA), naphthalene accounted for 70% to 90% of the total weight for detected compounds in the low volume testing.

At the beginning of excavation, activities were limited to the areas of shallow contamination to ensure that the odor control methods were effective. Based on the test excavation and subsequent shallow excavation, the odor control methods that were determined to be most effective included the following:

Neutralization by installation of a perimeter mist system utilizing Triad Industies' TR-400 product

Spraying excavation areas and stockpiles with odor suppressant foam material (AC-645 from Rusmar Foam Technology)

Covering open excavation areas and stockpiles with polyethylene sheeting

Had all of these methods failed to control odors, USACE had prepared a specification for the procurement of a pre-engineered fabric structure to contain the odors.

Photo 3-6 – Odor Control on Excavation Sidewall

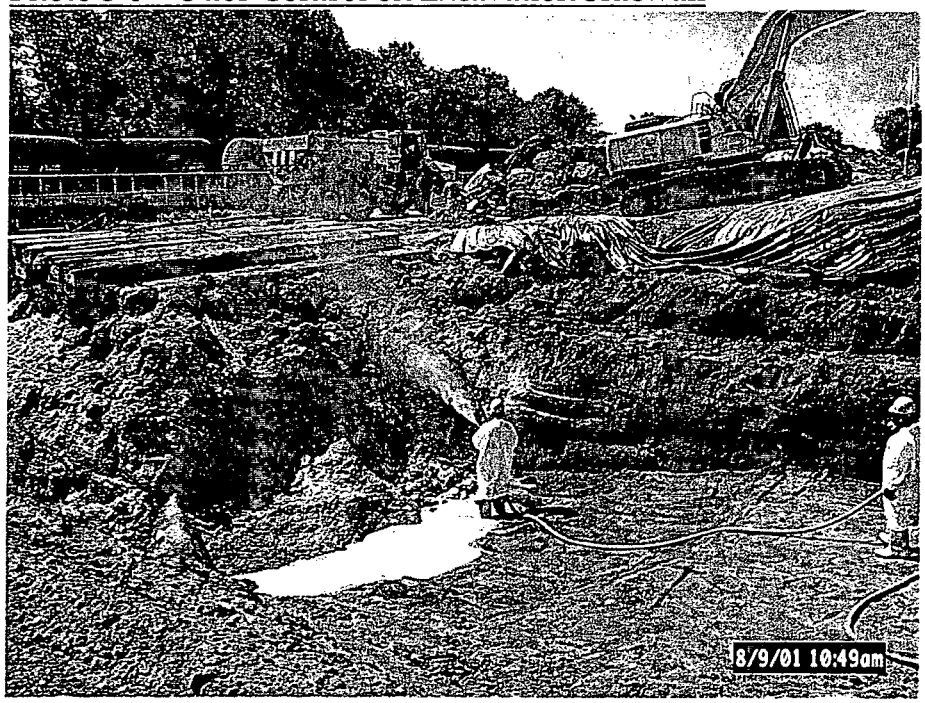


Photo 3-7 - Odor Control on Stockpile

Table 3-3 Odor Control Product/Method Performance Evaluation

Vendor	Environmental Control Systems & Products	Triad Industries	Kuma Corp	Kuma Corp	Rusmar Foam Technology	Rusmar Foam Technology
Product	Ecosorb	TR-400	Hydroseal	Odorseal	AC-645	AC-900
Preparation Time	Approximate 2-hr initial set up time. Application equipment and chemical materials were well suited for quick assembly	Approximate 1-hr initial set up time. Application equipment and chemical materials were well suited for quick assembly	Approximate 1-hr initial set up time. Application equipment and chemical materials were well suited for quick assembly	Approximate 1-hr initial set up time. Application equipment and chemical materials were well suited for quick assembly	Approximate 1/2-hr initial set up time. Application equipment and chemical materials were well suited for quick assembly	Approximate 1/2-hr initial set up time. Application equipment and chemical materials were well suited for quick assembly
Mobility Positioning of Spray Fixtures	Product was demonstrated with a flexible hose equipped with misting nozzles which surrounded the work area. Application can be easily adjusted	Product was demonstrated with a solid PVC line equipped with emission holes placed upwind of the excavation. Line can be easily adjusted	Vendor demonstrated material with hand-held spray gun attached to a flexible supply hose. This feature allowed for direct application to	Vendor demonstrated material with hand-held spray gun attached to a flexible supply hose. This feature allowed for direct application to	Vendor demonstrated material with hand-held spray gun attached to a flexible supply hose. This feature allowed for direct application to	Vendor demonstrated material with hand-held spray gun attached to a flexible supply hose. This feature allowed for direct application to

501815

Vendor	Environmental Control Systems & Products	Triad Industries	Kuma Corp.	Kuma Corp.	Rusmar Foam Technology	Rusmar Foam Technology
Product	Ecosorb	TR-400	Hydroseal	Odorseal	AC-645	AC-900
			the excavation	the excavation	the excavation	the excavation
Control Equipment Interference with Site Activities	None	None	None	None	None	None
Nature of Dispersement	Horizontal dispersion from any elevation	Vertical dispersion from any elevation	Direct Application	Direct Application	Direct Application	Direct Application
Consistency	Mist; combination of liquid product and water	Mist; combination of liquid product and air	Textured sealant; combination of product liquids and solids	Gelatinous membrane; pure product	Effervescent foam combination of liquid product and water	Foam sealant; combination of liquid product and water
Visibility Color	Highly visible; colorless mist	No visibility	Highly visible; dark green color	Highly visible; grayish-white color	Highly visible; white color	Highly visible; dark grey color
Odor Strength Characteristics	Strong perfume/floral odor	Strong perfume/floral odor	Strong perfume/floral odor	Strong perfume/floral odor	Strong soap odor	No odor detected
Adhesion to Sloped Surfaces	NA	NA	Fair	Fair	Good	Very good
Application	Constant mist	Constant vapor	Approximatel	Approximatel	Approximatel	Approximatel

501816

Vendor	Environmental Control Systems & Products	Triad Industries	Kuma Corp	Kuma Corp	Rusmar Foam Technology	Rusmar Foam Technology
Product	Ecosorb	TR-400	Hydroseal	Odorseal	AC-645	AC-900
Description			y 1 - 3 inches coating; did not diminish over time	y 1 inch coating; did not diminish over time	y 1 - 4 inches coating; did not diminish over time	y 1 - 3 inches coating; did not diminish over time

501817

3.4 Excavation Support System Installation

Depending on the depth of the excavation, sheeting or soldier pile and lagging system was utilized to provide excavation support along East Camplain Road, CSX right of way, and adjacent properties. CDM designed all excavation support systems, and submitted the design of the support along the CSX right of way to CSX for approval prior to installation. The sheet pile wall was installed by Linde-Griffith Construction Co., of Newark, NJ, using an ICE 4500 vibratory hammer rigged to a Manitowoc 3000W 65-ton crane. The soldier pile and lagging system, including tiebacks, were installed by Schnabel Foundation Company, Sterling, VA. Soldier piles were installed by first drilling the shaft to the required socket depth with a large diameter auger rig and then placing the soldier pile in the borehole backfilled with grout. During backfill, the lagging was removed and the soldier piles were left in place and cut-off four feet below ground surface. All sheeting was removed, except for approximately 13 lf in the front of 172 East Camplain Road in the northwest corner of the property, which was left in place and cut off at ground level. This portion of the sheeting was left in place in order to support future adjacent excavation (OU1 Phase 3).

On October 10, 2000, a pre-construction vibration survey was performed by Engineering Technologies located in Orlando, Florida. The purpose of the survey was to measure baseline ground vibration intensities around the proposed excavation areas and along East Camplain Road. The primary equipment utilized during the survey included a vibration meter (Integrated Vibration Meter, Bruel & Kjaer, Type 2516) and an accelerometer (Uni-axial Accelerometer, Bruel & Kjaer, Type 4384). The purpose of the pre-construction vibration survey was to establish baseline conditions for the monitoring proposed for construction. Vibration monitoring was performed during excavation support system installation. The monitoring indicated no adverse effects to the surrounding properties as a result of the construction activities.

Photo 3-8 – Excavation Support along CSX Railroad Right-of-Way

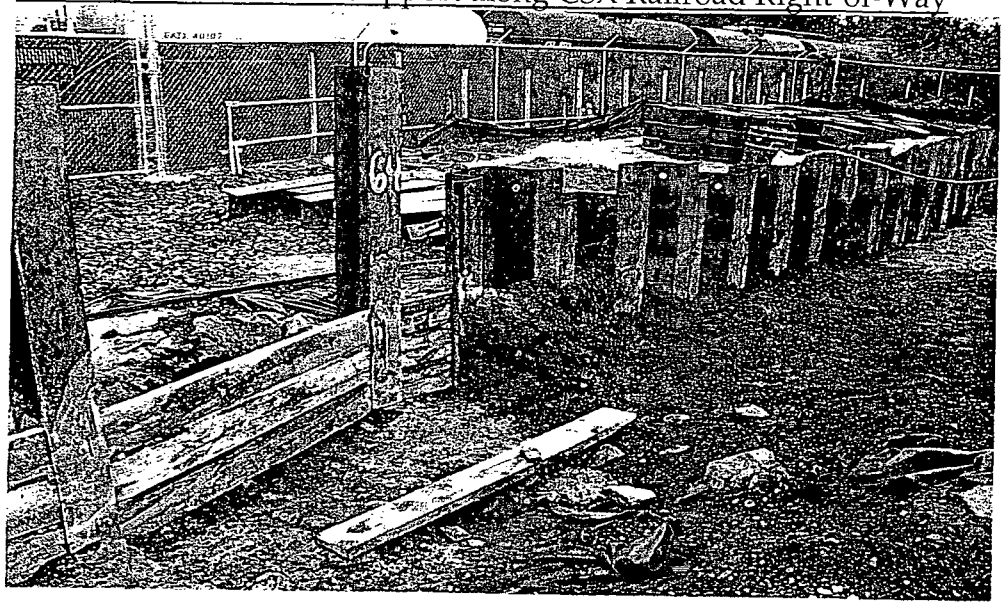
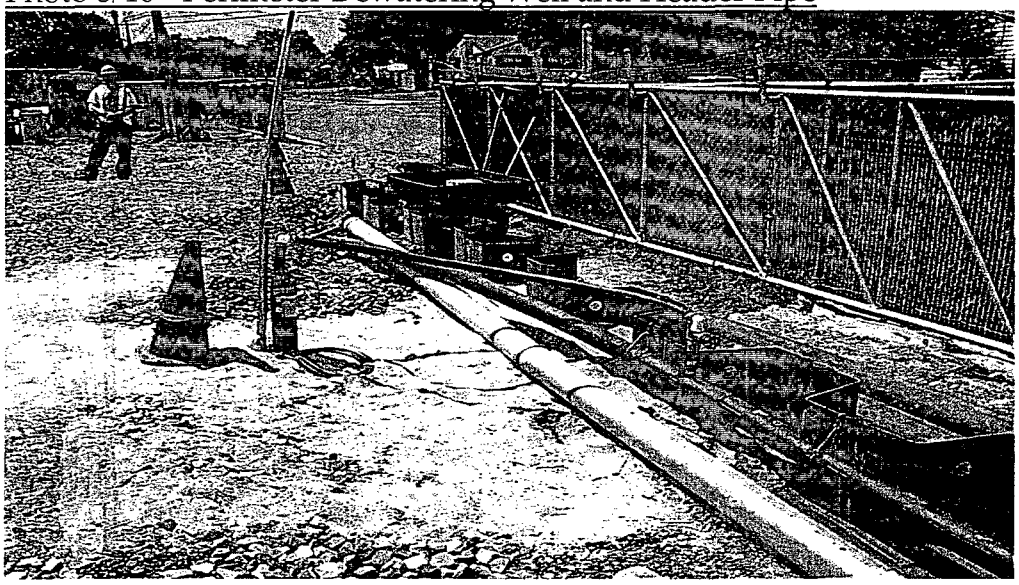


Photo 3-9 – Lagging Installation

3.5 Excavation Dewatering

Removal of source product to the required depth necessitated excavation below the water table. In order to excavate this material, SES installed a dewatering system, consisting of deep wells supplemented by sumps, to lower the groundwater table in the excavation and remove water from the deep excavation areas. SES's subcontractor, Griffin Dewatering of Short Hills, New Jersey designed the system, which consisted of 20 wells installed to a maximum depth of 30 feet bgs. The system was designed for a peak flow of 250 gallons per minute (GPM). Water collected by the system was pumped to the on-site wastewater treatment plant (WWTP) for treatment prior to disposal to the storm sewer system. The dewatering system design was submitted to NJDEP for permitting. A copy of the permit is included in Appendix F.

Photo 3-10 - Perimeter Dewatering Well and Header Pipe



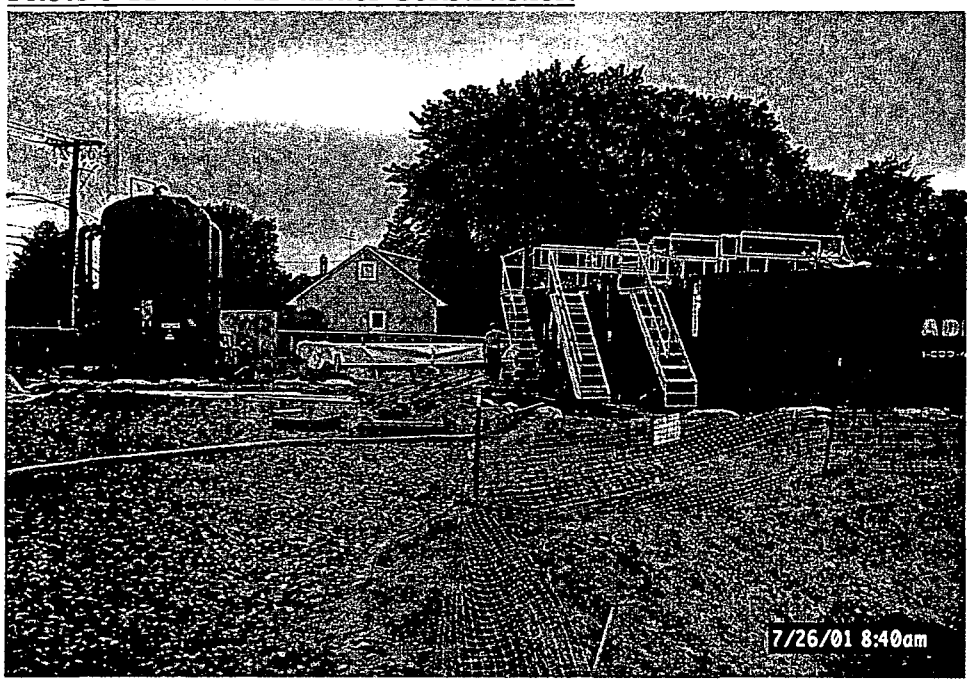
3.6 Wastewater Treatment and Disposal

Wastewater generated from excavation dewatering and equipment decontamination was treated on-site prior to being discharged to the storm sewer system, and ultimately to the Millstone River. SES developed a wastewater treatment plan, which was approved by the USACE prior to implementation. Authorization and discharge permits were obtained as discussed in Section 3.9.3.

SES designed a 300 GPM WWTP to treat wastewater generated during the remedial activities. The system consisted of an oil-water separator, followed by an influent equalization tank, followed by bag filters, granular activated carbon, and effluent storage tanks. The plant was operated and maintained in accordance with the Federal Creosote Superfund Site Wastewater Treatment Plant Operations and Maintenance Manual (SES, April 2001). Plant design rationale is

also included in the manual. SES obtained a permit in EPA's name (Permit No. 01-0568) from NJDEP to construct and operate the plant. A copy of the permit is included in Appendix G. A total of 33,837,458 gallons of water were treated and discharged during the Lagoon B remedial activities.

Photo 3-11 - WWTP under Construction



3.7 Excavation

The primary objective of the project was the removal and disposal of source material and contaminated soil that may pose risks to human health and the groundwater. Excavation activities were initiated on May 7, 2001 and were completed on May 17, 2002.

SES excavated to the limits shown on the contract drawings. The excavation areas were divided into 22 zones that vary in depth as shown in Figure 3-1. Upon completion, SES inspected both the sidewall and the bottom of the excavated areas for visible signs of contamination. If contamination was suspected, the Contracting Officer was notified and SES proceeded with secondary excavation as specified. A total of 34,505 CY of soil was excavated and transported off site for treatment and/or disposal.

SES utilized several different excavators, including a Komatsu PC-400, Caterpillar 345, Komatsu PC-300, and Komatsu PC-200 to excavate the contaminated materials. Materials excavated from shallow excavation areas were placed in road dump trucks and transported to a stockpile area located within Lagoon B. For the deep excavation areas, soil was loaded into off-road dump

trucks, and transported to the stockpile area. Crane mats were also utilized in the deep excavation areas to facilitate the transportation of the materials.

Excavated materials were segregated into three distinct stockpiles corresponding to the types of disposal as described in Section 3.9. To avoid cross contamination from one stockpile to another, SES designated an excavator for each stockpile. Typically a Komatsu PC300 was dedicated to the stockpiles designated as thermal treatment and Subtitle C, and a Komatsu PC200 was dedicated to the Subtitle D stockpile. Using the smaller excavator for Subtitle D enabled it to do other work around the excavation when it wasn't being used for loading. Stockpiled materials were loaded into lined trucks for transportation to treatment or disposal facilities.

Photo 3-12 - Excavation and Backfill in Lagoon B

3.8 Backfilling

SES backfilled the excavated areas using clean imported backfill material, meeting NJDEP residential direct contact cleanup criteria, from a source located on Cranbury Road, in Jamesburg, New Jersey. Toto Brothers was the distributing agent. Prior to being brought to the site, physical and chemical analyses were performed on every 5,000 CY lot of material to ensure that backfill materials met the project requirements and specifications.

Backfill material was placed directly in the excavation and spread in horizontal layers up to 8 inches thick utilizing bulldozers. Placed material was compacted by utilizing an SD-40D roller to a minimum of 95% of its maximum dry density by Standard Proctor (ASTM D-698). Compaction and moisture content testing of the backfill material was performed by SOR Testing Laboratories, Inc. located in Cedar Grove, New Jersey.

The upper layer of backfill material consisted of 6 inches of topsoil except in areas below the sidewalk. Approximately 32,694 CY of common fill and 1,541 CY of topsoil were utilized to fill the Lagoon B excavation areas. Topsoil, meeting NJDEP residential direct contact cleanup criteria, was obtained from a source located in Plumstead Township, New Egypt, New Jersey. The total volume of backfill material (common fill, structural fill, and topsoil) brought to the site was estimated at 34,235 CY, which is slightly less than the volume of excavated soil (34,505 CY). This slight difference in volume is attributed to the difference between pre-excavation and final grades. Pre-excavation grades include the stone that was placed in the basements and mounded above the house slab elevations following demolition of the Lagoon B properties, prior to excavation, to prevent water from ponding. The stone was removed during the excavation, and the areas were restored to the original house slab elevations during restoration.

3.9 Waste Disposal

Excavated materials were disposed of at one of three types of disposal facilities; thermal treatment and disposal, Subtitle C landfill, or Subtitle D landfill. Disposal was determined by the presence of creosote product and the degree of PAH contamination detected during the waste characterization sampling. Excavated materials were segregated into stockpiles corresponding to the three different types of disposal. The stockpiles were located within the Lagoon B remediation area.

As discussed in Section 3.7, excavated materials were segregated into three stockpiles in accordance with the different waste types described in Section 3.9.1. Each stockpile size was roughly 75 by 75 feet, and was kept to a maximum of 12 feet high. Each stockpile was covered during non-working hours. In general, 20-25 trucks per day were loaded and the stockpiles were replenished during the peak excavation times. Trucks were scheduled 48 hours in advance, and SES contacted the disposal facilities directly to arrange for disposal. Trucks designated for Subtitle D disposal facility were typically loaded first, since the facility was closer to the site and trucks could make round trips. The round trip to the thermal treatment facility in Quebec, Canada was roughly 34 hours. Materials to be disposed of at Subtitle C and D facilities were transported to their respective facilities by utilizing 70,000-lb tri-axle dump trucks. Materials requiring thermal treatment and disposal were loaded into 80,000-lb dump

trailers for transportation to the thermal treatment facility. All trucks transporting excavated materials to the facilities were required to be lined. Shipments of waste were routed to the main highways following haul routes in SES's approved transportation and disposal plan. Prior to leaving the site the trucks were decontaminated, weighed, and manifested.

Photo 3-13 – Loading Material from Stockpile

The requirements for disposal at the three types of facilities are discussed in the following sections.

3.9.1 Waste Types

The Lagoon B excavation produced solid waste that fell into 3 basic categories; hazardous waste requiring thermal treatment and disposal, hazardous waste that could be disposed in a Subtitle C landfill, and non-hazardous waste that could be disposed in a Subtitle D landfill. The 3 different waste types that were disposed of from the Lagoon B remediation are further defined in Table 3-4.

Table 3-4 Lagoon B Waste Categories

Waste Type, RCRA Designation	Waste Definition
Creosote Waste, F034	Any lagoon or canal sludges, other tarry material, or saturated soil within the excavation limits. (Saturated soil: The creosote thickly covers the soil grain, completely masking their original color and the pore spaces are full or almost full of creosote.)
Contaminated Soil, F034 based on contained-in policy	Soils with PAH concentrations exceeding the ACGs
Soil, Non-hazardous	Any soils with PAH concentrations below the ACGs
Debris, Non-hazardous	▪ Concrete slabs from demolition of building foundation and sidewalk ▪ Sewer pipe from storm sewer demolition ▪ Other building materials or boulders ▪ Tree stumps from grubbing operations

3.9.2 Treatment and Disposal Criteria

The treatment and disposal requirements for the different types of hazardous wastes are summarized in Tables 3-5 and 3-6.

Table 3-5 Hazardous Waste Disposal Requirements

Waste Type, RCRA Designation	LDR Treatment Requirements	LDR Disposal Requirements
Creosote Waste, F034	Thermally treat to below the UTS	Dispose in a RCRA Subtitle C landfill after treatment
Contaminated Soil, F034 based on contained-in policy	For soil with PAH concentrations >10 times UTS: Achieve a 90% reduction in PAH concentrations, or Reduce PAH concentrations to less than 10 times the UTS.	Dispose of in Subtitle C landfill or equivalent after treatment. For soil with PAH concentrations <10 times UTS: Dispose in Subtitle C landfill or equivalent without treatment.

Table 3-6 UTS and 10 Times UTS Concentrations

Regulated Hazardous Constituent		UTS for F034 Creosote Waste	10 Times UTS for F034 Contaminated Soil
Common Name	CAS No	Concentrations (mg/kg)	Concentrations (mg/kg)
Acenaphthene	83-32-9	3.4	34
Anthracene	120-12-7	3.4	34
Benzo(a)anthracene	56-55-3	3.4	34
Benzo(b)fluoranthene	205-99-2	6.8	68
Benzo(k)fluoranthene	207-08-9	6.8	68
Benzo(a)pyrene	50-32-8	3.4	34
Chrysene	218-01-9	3.4	34
Dibenz(a,h)anthracene	53-70-3	8.2	82
Fluorene	86-73-7	3.4	34
Indeno(1,2,3-c,d)pyrene	193-39-5	3.4	34
Napthalene	91-20-3	5.6	56
Phenanthrene	85-01-8	5.6	56
Pyrene	129-00-0	8.2	82
Arsenic	7440-38-2	5.0 mg/l TCLP	NA
Chromium (Total)	7440-47-3	0.60 mg/l TCLP	NA

Table 3-7 summarizes the quantities of material disposed at the three types of disposal facilities.

Table 3-7 Material Disposal Summary

Facility	Address	Permit No.	Facility Type	Quantity (tons)
Bennett Environmental Inc.	80 Rue Dez Melezes St Ambrose, Quebec, Canada G7P2N4	7610-02-01-0603816	Thermal Treatment and Disposal	45,134.19
CWM Chemical	1550 Balmer Road Model City, NY 14107	NYD 049836679	Subtitle C	13,104.40
Waste Management GROWS	1513 Bordentown Road Morrisville, PA 19067	PAD 000429589	Subtitle D	5,449.08
Waste Management Tullytown Resource Recovery Facility (TRRF)	200 Bordentown Road Tullytown, PA 19007	DEP 17273	Subtitle D	859.11

3.9.3 Wastewater

Wastewater generated from excavation dewatering and equipment decontamination was treated on-site prior to being discharged to the storm sewer system, and ultimately to the Millstone River.

Because the treated water was ultimately discharged to the Millstone River, compliance with the New Jersey Pollutant Discharge Elimination System (NJPDES) Master General Petroleum Products Cleanup (GPPC) was required. Surface Water Master General Permit (No. NJ0102709) and Discharge Authorization Permit (No. NJG0139050) were obtained. Copies of the permits are included in Appendix H. Table 3-8 below summarizes the wastewater treatment plant effluent permit discharge limits. Table 3-9 is a summary of the wastewater treatment plant sampling requirements.

Table 3-8 Wastewater Treatment Plant Effluent Permit Requirements

Parameter	Effluent Discharge Limits	
	Monthly Average	Daily Maximum
TSS	Report ppm	40 ppm
TPH	10 ppm	15 ppm
TOC	Report ppm	20 ppm
Total Cr	50 ppb	100 ppb
Total Cu	50 ppb	100 ppb
Total Ni	72 ppb	144 ppb
Total Pb	37 ppb	79 ppb
Fluoranthene	25 ppb	68 ppb
Fluorene	22 ppb	59 ppb
Phenanthene	22 ppb	59 ppb
Pyrene	25 ppb	67 ppb
Benzo(a)anthracene	Report ppb	10 ppb
Naphthalene	22 ppb	59 ppb
Benzene	Report ppb	7 ppb
Tetrachloroethylene	Report ppb	16 ppb
TBA	Report ppb	Report ppb
2,4- Dimethylphenol	18 ppb	36 ppb
Phenol	Report ppb	26 ppb
MTBE (influent	Report ppb	Report ppb
MTBE (effluent)	Report ppb	70 ppb
MTBE % Removal	>85%	NA
Effluent Flow	Report GPD	Report GPD
Parameter	**Minimum**	**Maximum**
pH	6.0 s.u.	9.0 s.u.

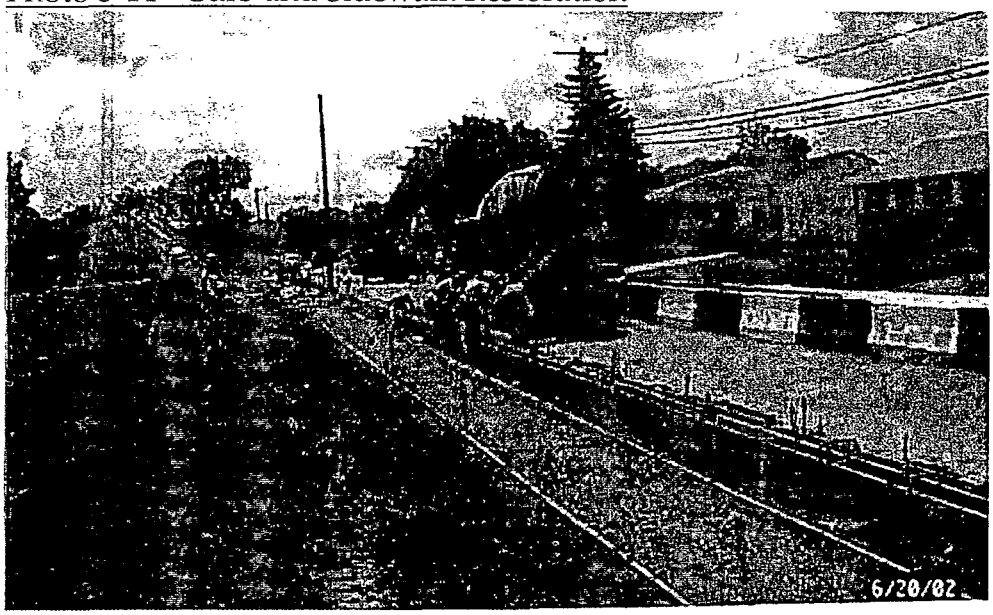
Table 3-9 Wastewater Treatment Plant Sampling Requirements

Parameter	Function	Frequency	Analytical Method	Container	Preservatives
Flow	O&M	Every other hour	SES SOP	NA	NA
pH	O&M	Per shift	EPA 150.1	8 OZ Jar	Analyze immediately
pH	Permit	Twice a week	EPA 150.1	125 ml HDPE	Cool 4 °C
TSS	Permit	Twice a week	EPA 160.2	500 ml HDPE	Cool 4 °C
TPH	Permit	Twice a week	QA-025	1 liter Amber	pH<2 HCl Cool 4 °C
TPH	O&M	Twice a week	Hach 10052	100 ml Poly	Analyze immediately
TOC	Permit	Twice a week	EPA 415.1	60 ml HDPE	pH<2 HCl Cool 4 °C
Total Cr	Permit	Twice a week	EPA 200.7	500 ml HDPE	pH<2 HNO_3
Total Cr	O&M	Twice a week	Hach 8024	100 ml Poly	Analyze immediately
Total Cu	Permit	Twice a week	EPA 200.7	500 ml HDPE	pH<2 HNO_3
Total Cu	O&M	Twice a week	Hach 8143	100 ml Poly	Analyze immediately
Total Ni	Permit	Twice a week	EPA 200.7	500 ml HDPE	pH<2 HNO_3
Total Ni	O&M	Twice a week	Hach 8150	100 ml Poly	Analyze immediately
Total Pb	Permit	Twice a week	EPA 200.7	500 ml HDPE	pH<2 HNO_3
Total Pb	O&M	Twice a week	Hach 8317	100 ml Poly	Analyze immediately
SVOC	Permit	Twice a week	EPA 625	1 liter Glass	Cool 4 °C
MTBE (influent)	Permit	Twice a week	EPA 624	40 ml Glass	HCl
MTBE (effluent)	Permit	Twice a week	EPA 624	40 ml Glass	HCl
Benzene	Permit	Twice a week	EPA 624	40 ml Glass	HCl
TCE	Permit	Twice a week	EPA 624	40 ml Glass	HCl
TBA	Permit	Twice a week	EPA 624	40 ml Glass	HCl
2,4-Dimethylphenol	Permit	Twice a week	EPA 625	1 liter Glass	Cool 4 °C
Phenol	Permit	Twice a week	EPA 420.1	1 liter	pH<2 H_2SO_4 Cool 4 °C
Phenol	O&M	Twice a week	Hach 8047	100 ml Poly	Analyze immediately

3.10 Site Restoration

Houses and other structures demolished during the demolition activities were not re-constructed. Roadways, curbs and sidewalks impacted by the remedial activities were restored and/or rebuilt as shown on the Lagoon B restoration plan included in the contract drawings. The site was graded to closely follow the pre-excavation grades. There is a high point at the footprint of the former houses, and the yards slope gently toward the front and the back. Utility service laterals were left capped in the street. The properties were hydroseeded and trees were planted in the back yards along the CSX railroad right-of-way. A utility pole line that was relocated to the opposite side of East Camplain Road by PSE&G (Public Service Electricity & Gas) remained in place there.

Photo 3-14 - Curb and Sidewalk Restoration



3.11 As-Built Survey

The final As-Built survey depicts the post-remediation conditions and final topography of the site. The location and elevation of the steel sheeting left in place, and the locations where the utilities were cut and capped were also shown. Copies of remedial construction As-Built drawings are included in Appendix I. Final survey was performed by Kennon Surveying Services.

3.12 Soil Sampling and Analysis

Sampling and analysis of soils were performed as described in the USACE-approved Sampling and Analysis Plan. The primary site contaminants, PAHs, were analyzed by SW-846 method 8270C.

3.12.1 Waste Characterization Sampling

Prior to beginning excavation activities, waste characterization drilling and sampling were conducted as described in Section 3.2.2. During excavation, excavated material was segregated into three different stockpiles corresponding to the type of disposal as dictated by the analytical results. Stockpiles were located on the site of the Lagoon B excavation.

3.12.2 Post Excavation Sampling

Upon removal of all visible contamination within the limits of the primary excavations as shown on the contract drawings, post excavation sampling was performed in accordance with the site specific Sampling and Analysis Plan and specifications. Post-excavation samples were not collected along excavation sidewalls where sheeting, soldier pile and lagging were installed. One bottom sample was collected for every 900 ft^2. One sidewall sample was also collected for every 30 linear feet of excavation sidewall. A total of 251 post excavation samples were collected and analyzed for PAHs. Post excavation samples were grouped into two categories as described below:

- Confirmation samples

Confirmation samples were collected in areas where excavation depth was less than 12 feet if visible contamination was not observed within the excavation. Confirmation sampling results were compared to the ACGs. If results showed that contamination remained, secondary excavation was performed according to project specifications and as directed by the Contracting Officer.

- Documentation Samples

Documentation samples were collected in areas where excavation depth was greater than 12 feet or as directed by the Contracting Officer. These samples were collected to document the location of any remaining contamination. Secondary excavation was not performed based upon the analytical results of the documentation samples.

Property closure reports are included in Appendix J. These reports contain individual property drawings which show the locations of the post excavation samples.

Five properties had sample results that exceeded the ACGs beyond the limits of the excavation. Deed notices will be placed on these properties to show the location of the remaining contamination. Following is a list of deed notice properties:

180 East Camplain Road
192 East Camplain Road

198 East Camplain Road
204 East Camplain Road
210 East Camplain Road

3.12.3 Backfill Material Sampling

Upon completion of excavation activities and subsequent to post excavation sampling and analysis, excavated areas were backfilled with clean soil from off-site sources. Representative samples of backfill materials were collected and analyzed at a frequency of one sample for every 5,000 CY of imported material. Only materials that met NJDEP residential direct contact soil cleanup criteria (NJAC 7:26D) and the project specifications were utilized.

3.13 Perimeter Air Monitoring

SES developed a Perimeter Air Monitoring Plan (PAMP) describing the methods and procedures utilized to determine the air contaminants that may be released during remediation activities. The contaminants of concern included; Volatile Organic Compounds (VOCs), PAHs, and respirable particulates. In addition, a meteorological system, monitoring wind speed and direction, ambient temperature, atmospheric pressure, solar radiation, and precipitation was installed within the support zone.

Perimeter air monitoring was performed by using real time instrumentation and samples were collected for analysis in accordance with EPA T0-13, T0-14, and PM-10 methods for PAHs, VOCs, and respirable particulates, respectively. Tables 3-10 and 3-11 summarize the perimeter air monitoring/sampling requirements for the Lagoon B remediation.

In general, analytical results of the collected samples showed concentrations below the allowable limits. However, the samples collected on June 5, 2001 resulted in 1,1dichloroethene concentrations ranging from 516 ppb to 891 ppb. These exceedances were not attributed to onsite construction activities.

Table 3-10 RespirableDust Monitoring Requirements

Parameters	Action Level	Frequency per location	Analytical Method	Action Required
Site Perimeter - Upwind (Background)				
Respirable Dust (PM_{10})		1 per 2-hour period	Direct Reading	
Dust Sample (Respirable Particulate)		3 day background evaluation 1 per day - 1st week 1 per week - 1 month 1 per month thereafter 1 per day - changed conditions	PM-10	
Site Perimeter - Downwind (3 Locations)				
Respirable Dust (PM_{10})	100 ug/m^3 [1,4]	One 15-minute reading per hour	Direct Reading	Repeat reading - if 2nd 15-minute average value exceeds, notify CO, document exceedance, evaluate engineering controls.
	150 ug/m^3 [1,4]	One 15-minute reading per hour		Stop work, notify CO, determine corrective action for dust control, start work after CO acceptance.
Dust Sample (Respirable Particulate)	150 ug/m^3	3 day background evaluation 1 per day - 1st week 1 per week - 1 month 1 per month thereafter 1 per day - changed conditions	PM-10	If sample exceeds, evaluate engineering controls and stop work. Implement engineering controls, start work after CO acceptance.

[1] Ambient concentrations including background.
[2] Frequencies listed in the table are for active construction periods.
[3] Monitoring during non-work hours (weekends) is stated in the PAMP.
[4] Contractor required to maintain records to document compliance with CAA and NJ Administrative Code.

Table 3-11 VOCs and PAHs Air Monitoring Requirements

Parameters	Action Level[1] ppb	Frequency[2] per location	Analytical Method	Action Required
Site Perimeter - Upwind (Background)				
Total Volatile Organics		Full work shift (8-10 hours)	Direct Reading	
Air Sample Volatile Organic Compounds PAHs		3 day background evaluation 1 per day - 1st week 1 per week - 1 month 1 per month thereafter 1 per day - changed conditions	EPA T0-13 (PAHs) EPA T0-14 (VOCs)	
Site Perimeter - Downwind (3 Locations)				
Total Volatile Organics	10,000	Instantaneous	Direct Reading	Stop work, notify CO, determine corrective action for vapor control, start work after CO acceptance.
	2,000	15-minute	Direct Reading	Stop work, notify CO, determine corrective action for vapor control, start work after CO acceptance.
	300	8-hours corresponding to peak site operations	Direct Reading	Evaluate and implement corrective action prior to the start of the next shift. Notify CO, start work after CO acceptance.
Air Sample Volatile Organic Compound Naphthalene / Aromatics	OEL[4]/100 for each detected target analyte	3 day background evaluation 1 per day - 1st week 1 per week - 1 month 1 per month thereafter 1 per day - changed conditions	T0-13 (PAHs) T0-14 (VOCs)	

[1] Ambient concentrations including background.
[2] Frequencies listed in the table are for active construction periods.
[3] Monitoring during non-work hours (weekends) is stated in PAMP.
Objective for control of vapor during non-work hours is to maintain concentrations at or near background levels.
[4] Occupational Exposure Limit (OEL) - Time Weighted Average.

Section 4

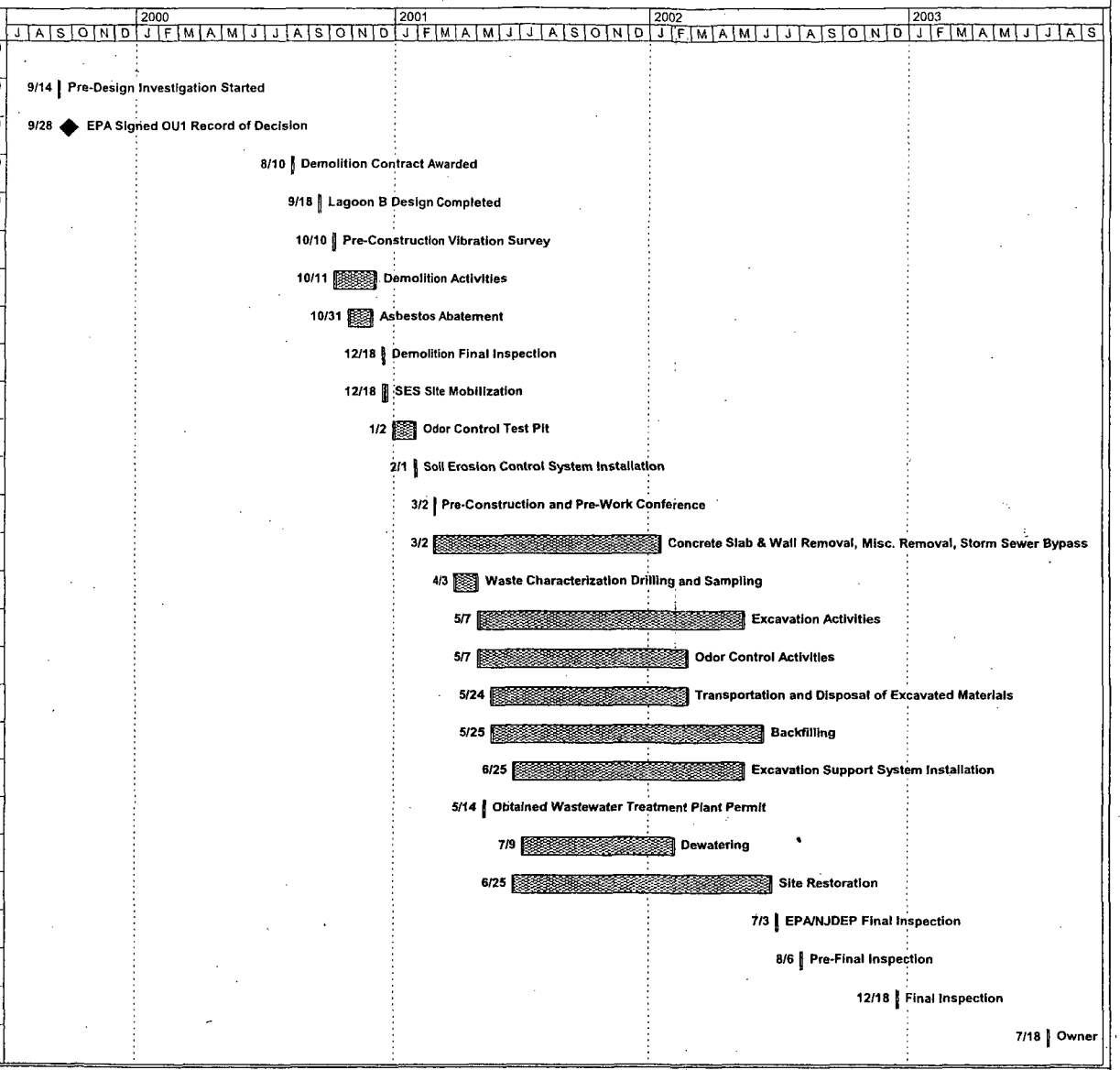
501834

Section 4
Chronology of Events

Figure 4-1 summarizes the events that occurred during the Lagoon B Demolition and Remedial Action.

Figure 4-1 Chronology of Events

ID	Task Name	Duration	Start	Finish
1	Site Placed on National Priority List	1 day	Tue 1/19/99	Tue 1/19/99
2	Pre-Design Investigation Started	1 day	Tue 9/14/99	Tue 9/14/99
3	EPA Signed OU1 Record of Decision	1 day	Tue 9/28/99	Tue 9/28/99
4	Demolition Contract Awarded	1 day	Thu 8/10/00	Thu 8/10/00
5	Lagoon B Design Completed	1 day	Mon 9/18/00	Mon 9/18/00
6	Pre-Construction Vibration Survey	1 day	Tue 10/10/00	Tue 10/10/00
7	Demolition Activities	41 days	Wed 10/11/00	Wed 12/6/00
8	Asbestos Abatement	24 days	Tue 10/31/00	Fri 12/1/00
9	Demolition Final Inspection	1 day	Mon 12/18/00	Mon 12/18/00
10	SES Site Mobilization	5 days	Mon 12/18/00	Fri 12/22/00
11	Odor Control Test Pit	22 days	Tue 1/2/01	Wed 1/31/01
12	Soil Erosion Control System Installation	1 day	Thu 2/1/01	Thu 2/1/01
13	Pre-Construction and Pre-Work Conference	1 day	Fri 3/2/01	Fri 3/2/01
14	Concrete Slab & Wall Removal, Misc. Removal, Storm Sewer Bypass	231 days	Fri 3/2/01	Fri 1/18/02
15	Waste Characterization Drilling and Sampling	24 days	Tue 4/3/01	Fri 5/4/01
16	Excavation Activities	270 days	Mon 5/7/01	Fri 5/17/02
17	Odor Control Activities	212 days	Mon 5/7/01	Tue 2/26/02
18	Transportation and Disposal of Excavated Materials	199 days	Thu 5/24/01	Tue 2/26/02
19	Backfilling	275 days	Fri 5/25/01	Thu 6/13/02
20	Excavation Support System Installation	235 days	Mon 6/25/01	Fri 5/17/02
21	Obtained Wastewater Treatment Plant Permit	1 day	Mon 5/14/01	Mon 5/14/01
22	Dewatering	153 days	Mon 7/9/01	Wed 2/6/02
23	Site Restoration	262 days	Mon 6/25/01	Tue 6/25/02
24	EPA/NJDEP Final Inspection	1 day	Wed 7/3/02	Wed 7/3/02
25	Pre-Final Inspection	1 day	Tue 8/6/02	Tue 8/6/02
26	Final Inspection	1 day	Wed 12/18/02	Wed 12/18/02
27	Ownership of Lagoon B Properties Transferred to NJDEP	1 day	Fri 7/18/03	Fri 7/18/03



Project: OU1 Phase 1 (Lagoon B)
Date: Mon 7/25/05

Task Milestone

501836

Section 5

Section 5
Performance Standards and Construction Quality Control

SES implemented a Quality Control (QC) program that incorporated the requirements of the project specifications and the approved site specific Contractor Quality Control Plan (CQCP). USACE provided Quality Assurance (QA) through the use of on site personnel to monitor project performance.

5.1 Project QA/QC Organization

Lagoon B remedial action was supported by both field and office personnel. SES on site personnel consisted of Project Manager, Site Contractor Quality Control Manager, Site Safety and Health Officer, Project Engineer, and Project Superintendent. Overall project organizational chart is presented in Figure 5-1.

5.2 Construction QA/QC Implementation

A three-phase quality check was conducted for each definable feature of the work. The checks include preparatory, initial, and follow-up inspections. The preparatory inspection was performed after all required plans, documents, and materials were approved and copies were at the work site. The initial inspection was conducted after the completion of a representative sample of the work. The follow-up inspection consisted of daily quality control activities to ensure compliance with contract requirements until the completion of a particular definable feature of work.

5.3 Sampling and Analysis

A QA/QC system was implemented to ensure the accuracy, completeness, and precision of sampling data. Collected field QA/QC samples included field duplicates, matrix spike, matrix spike duplicates, and QA split samples.

5.3.1 Field Duplicates

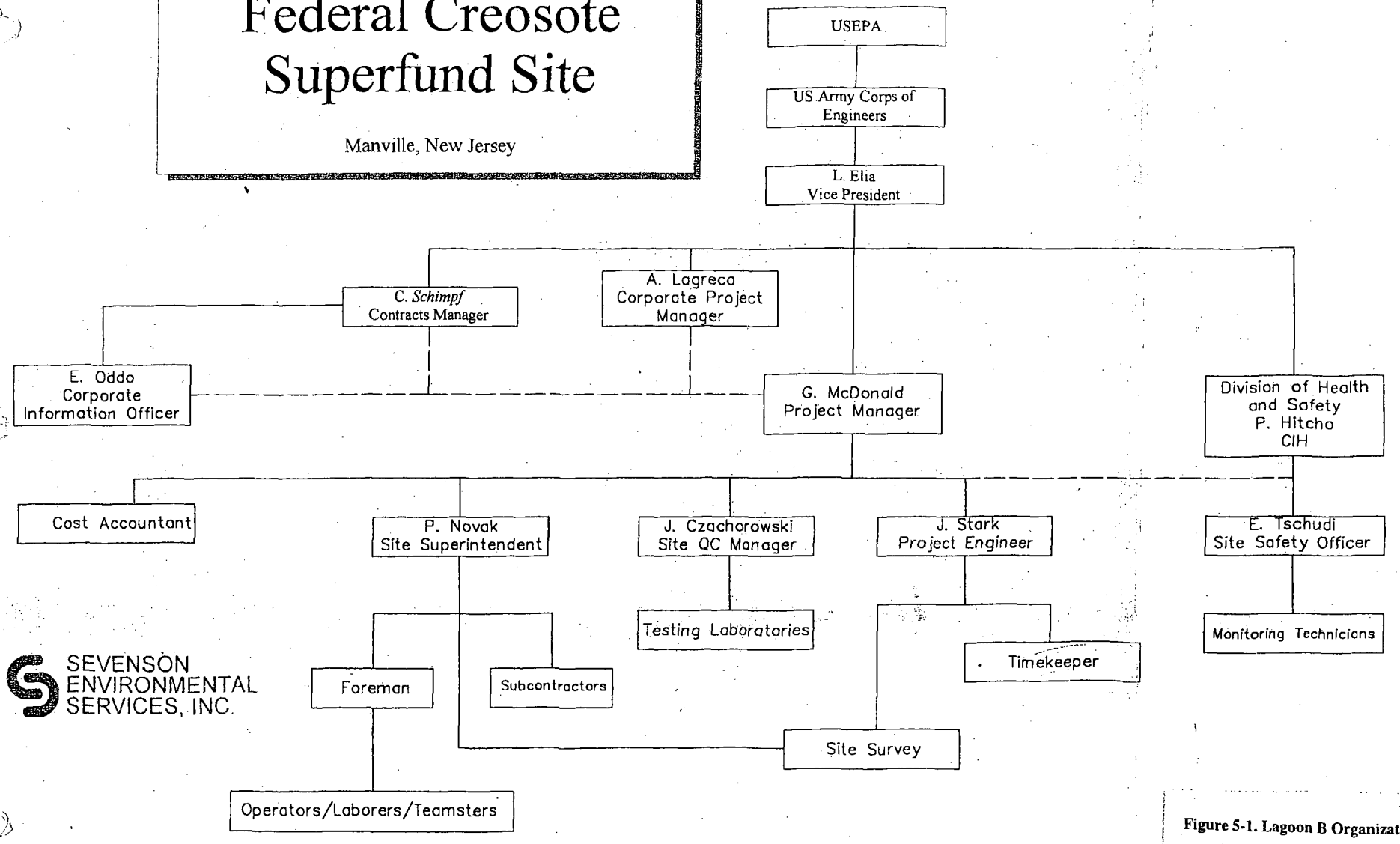
Field duplicates are defined as a homogenized sample collected from a unique location that was divided into two separate sets of containers and submitted to the laboratory as two unique samples for analysis. Field duplicates were collected at a frequency of one duplicate for every 10 samples.

5.3.2 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD samples were collected to document the precision and consistency of the laboratory equipment. MS/MSD samples were collected at a rate of one sample for every 10 field samples.

Project Organizational Chart
Federal Creosote Superfund Site

Manville, New Jersey



SEVENSON ENVIRONMENTAL SERVICES, INC.

Figure 5-1. Lagoon B Organizational Chart

5.3.3 USACE QA Sampling

USACE QA split samples were collected as follows. A sample was collected then divided into two distinct samples. The duplicate pairs were tracked so that the results could be compared. One of the samples was submitted to the subcontracted project laboratory. The other sample was submitted to USACE Environmental Chemistry Branch laboratory located in Omaha. The results of the two samples were compared for analytical method accuracy.

5.3.4 Data Review/Validation

Field data were assessed by the on site QC manager. The QC manager reviewed field results for compliance with established QC criteria. Field measurements were assessed using daily instrument calibration, calibration check, and blank analysis.

Laboratory analytical data were subjected to review to assess data precision, completeness and sensitivity.

5.3.5 Sample Numbering

Sample numbering scheme was developed to identify each sample designated for laboratory analysis. The purpose of this numbering scheme was to provide a tracking system for retrieval of field and analytical data of each sample. A summary of the sample numbering scheme is presented in Section 4 of the Approved Sampling and Analysis Plan submitted by SES.

5.4 In-Place Soil Moisture and Density Testing

In-place soil moisture and density testing was performed as described in Section 3.8. Field testing was performed by subcontractor personnel using a Troxler Nuclear Moisture Density Gauge.

5.5 Health and Safety

As required by the Site Safety and Health Plan (SSHP), daily tailgate meetings were conducted. Special health and safety considerations were discussed as they pertained to the daily activities. Weekly meetings were also held to review issues related to any new activities. Moreover, SES's Health and Safety Director, Paul J. Hitcho, CIH, conducted periodic Health and Safety inspections during the course of the project. A copy of the April 2002 inspection report is included in Appendix K.

General site workers were required to be trained for Hazardous Waste Operations and Emergency Response in accordance with 29 CFR 1919.120, and excavation and trenching safety trained. Individuals involved with the asbestos

abatement were required to be trained as specified in NJAC 12:120 and 8:60. Individuals involved with shipping of hazardous materials were required to receive the appropriate Department of Transportation (DOT) training. Most of the work was conducted in Level D personal protective equipment, except for personnel in direct contact with the material was required to work in Level C. Ambient air monitoring, in the form of real-time VOC and dust monitoring and high-volume particulate sampling and VOC sampling was also conducted within the vicinity of the excavation areas throughout the period of construction as discussed in Section 3.13.

No incidents or injuries were reported during the course of the remedial action activities.

5.5.1 Personnel Exposure Air Monitoring

Personnel exposure air monitoring was conducted during the Lagoon B remediation. The collected samples were analyzed for PAHs and BTEX in accordance with NIOSH methods 1501 and 5506, respectively. The samples were also analyzed for respirable dust as indicated in Section 3.13. All samples collected over the 19 sampling events resulted in concentrations below OSHA threshold values.

5.5.2 Personnel Decontamination

Personnel decontamination was performed upon exiting the exclusion zone and at the end of each work day. A nontransparent enclosure was strategically located within the decontamination pad to allow field personnel exiting the exclusion zone to change into street clothes prior to entering the support zone.

5.5.3 Equipment Decontamination

All equipment exiting the exclusion zone was required to be decontaminated prior to entering the support zone or leaving the project site in accordance with the SSHP.

Section 6

Section 6
Inspection and Certification

6.1 Inspections

In addition to the three-phase inspection, pre-final and final inspections were performed following the completion of the remedial construction. The purpose of these inspections was to ensure that all work was performed to the satisfaction of the EPA, USACE.

6.1.1 Pre-Final Inspection

A pre-final inspection was held on August 6, 2002. Representatives from all parties including EPA, USACE, and SES were present. The following punch list items and deficiencies were observed and corrective action was required:

- Grading along CSX right-of-way by new catch basin
- Relocating overhead electric east of East Camplain Road
- Construction sign removal
- Removal of excess telephone wires used for waste water treatment plant/safety trailer
- Caulking along curb/gutter
- Establishment of grass along CSX right-of way using erosion control mats
- Removal of survey tapes/stakes from properties

6.1.2 Final Inspection

On December 18, 2002, upon correction of all deficiencies and submittal of outstanding project document, representatives of EPA, USACE and SES attended a Final inspection. At this time, no punch list items were identified.

On July 3, 2002, Rich Puvogel, EPA RPM and Drew Sites, NJDEP's representative inspected the site. Subsequent to the inspection, Mr. Puvogel issued a final inspection memorandum documenting the inspection. A copy of the memo is included in Appendix L.

Section 7

Section 7
Operation and Maintenance

The Lagoon B remediation was a permanent remedy. Therefore, long-term O&M was not required, except for maintenance of the new vegetation, which consisted of hydroseeded areas and planted trees. Maintenance activities such as mowing, removal of weed species, and watering were conducted during the first year following vegetation establishment.

7.1 Warranty

As required by the contract documents, SES was responsible for the vegetation for a 12-month period following establishment.

Section 8

Section 8
Summary of Project Cost

The Lagoon B construction contract was executed as a cost-reimbursable contract. The work was completed under PRAC Contract Number DACW41-01-D-0001, awarded through USACE Kansas City District.

8.1 Demolition Cost

Demolition contract was awarded to CAPE. The demolition work was performed under Contract Number DACW41-00-D-0021. Contract's original amount ($955,064.20) was increased by $40,264.58 through nine modifications to a total of $995,328.78. Table 8-1 summarizes the demolition contract modifications.

Table 8-1 Demolition Contract Modifications Summary

CAPE No.	USACE No.	Description	Amount
000109	000109	Change Description of 000108	-
NE001	P00102	Utility Pole Relocation	$12,879.98
NE002	P00103	Asbestos Abatement	$31,050.00
NE003	P00105	Water and Gas Shut-off	$726.00
NE004	000107	Roof Asbestos Abatement	($8,118.00)
NE005	000108	Finalize Contract Quantities	($34,061.16)
NE006	000101	Transfer to NY District	-
NE007	000104	Change in Paying Office	-
NE008	000106	Additional Security	$37,787.76
Total			**$40,264.58**

8.2 Remedial Construction Cost

The original negotiated contract amount was $24,215,741. Project variations during the remedial effort prompted several contract modifications that expanded the budget amount by $12,621,196 to $36,836,937. The work was executed under a cost-reimbursable contract. As a result, only actual cost occurred was reimbursed to the contractor. Total payment to SES for the Lagoon B remedial action was $33,263,575. Table 8-2 summarizes the remedial construction modifications.

Table 8-2 Remedial Construction Contract Modifications Summary

MOD No.	ATP No.	Description	Amount
01	002		$8,000
03	004	Lawn Maintenance	$12,017
	006	Revised Maintenance & Security	$1,790

MOD No.	ATP No.	Description	Amount
	009	ADT Security/Power/Telephone	$439,087
	011	Additional quantities & sheeting based on waste characterization sampling	$7,417,083
04	013	Excavation Specs Revision	$77,905
	012	Work Plans Cost Growth	$102,761
	014	Additional Concrete	$76,391
	015	April 01 Rate Adjustment	$107,022
	016	Temporary Facility Cost Growth	$98,872
	017	Thermal Material Increase	$4,673,251
	018	Odor Control Increase	$100,019
06	020	Additional Storm Sewer	$18,052
	021	Additional Quantity Common Fill	$89,549
	022	Additional Topsoil Samples	$10,116
	023	Additional Subtitle D Material	$64,395
	025	Additional Subtitle D Material	$19,173
	027	Temporary Facility Cost Growth	$14,829
	028	Additional Subtitle D Material	$828
	029	Excavation Sheeting Removal	$317,184
	033	Phone System & UPS Installation	$7,486
09	048	Planting &Curb Replacement	$19,383
	053	Sidewalk Replacement	$2,556
	065	Curb Replacement	$1,351
	104	WO2 Authorized Budget	($1,057,904)
Total			**$12,621,196**

Section 9

501849

Section 9
Observations and Lessons Learned

- Odor Control – Odor control was a primary concern during the design phase of the project for several reasons:

  - Odor is a subjective nuisance issue; there is no instrument with which to measure it.
  - Complaints, if persistent enough, could potentially have stopped work, delaying the project, driving up costs, and causing animosity with the community.
  - It was unknown prior to excavation how much of a problem the odor would be.
  - The most extreme and most effective solution was determined to be a pre-engineered fabric structure (PFS), which would have cost over $1 million, slowed the construction considerably, and created additional hazards for the workers.

  For these reasons, USACE had a design ready for a PFS in the event that all other odor control measures were ineffective and EPA received persistent complaints about the odor. Fortunately, as determined during the test pit and early in the full-scale excavation, the combination of odor control foam, perimeter misting system, and covering excavations and stockpiles with polyethylene sheeting was effective enough in controlling odors that there were no persistent complaints.

- Excavation Support System – The excavation bordered an active freight line owned by CSX Railroad. USACE engaged CSX early in the design process, which allowed for timely approval of the excavation support system (soldier pile & lagging and sheeting).

- Pre-excavation Grid Sampling for Waste Characterization – Prior to excavation, SES conducted a sampling program on a 25 ft by 25 ft grid throughout the area to be excavated. Samples were collected every 4 feet throughout each boring, and analyzed for PAHs. The results were compared to the waste disposal criteria, giving an indication of the disposal for each 4-foot layer of soil throughout the excavation. This allowed SES to direct-load soil into trucks for off-site disposal, minimizing the amount of stockpiling required. Additional benefits of the waste characterization sampling included elimination of laboratory analysis turnaround time during construction, reduction of onsite waste handling and potential short term exposure risks to local residents.

- Community Relations - Although this report focuses on technical aspects of the project, the role of community relations during the implementation of the cleanup of Lagoon B within the residential area deserves mention. Prior to start of the remediation work, the community was apprehensive about the impending impacts of the intrusive work. EPA's community relations goals were to: provide information about upcoming cleanup to residents using a medium that most efficiently conveyed that information; provide information in a way that community members could understand; and give the information to the residents a time when it would be most important to them. To accomplish these goals a number of tools were used: flyers, newsletters, community advisory group meetings, one on one meetings with residents, interviews with newspaper, radio, and television media. One page flyers, providing updates on planned work, were distributed door to door within the community shortly before the planned activities took place. The one page flyers could be produced quickly to react to changing field conditions and were distributed either community wide or to residential properties that were to be most immediately affected by Lagoon B work. A community relations policy for the site was established that required prompt responses to community inquiries; i.e. phone messages to all community relation coordinators. This high visibility of EPA personnel also helped to establish and preserve a high level of public acceptance and trust. Successful community relations were cultivated using the different tools mentioned above at one time or another throughout the remediation of Lagoon B. The community exhibited a greater tolerance for inconveniences associated with the remediation when they were made aware of them before they occurred. Using contractors and USACE personnel who had previous experience in remediation within residential settings was extremely helpful.

- The Lagoon B remediation required relocation or disconnection of overhead electric, sanitary, storm sewer, water, and gas utilities. The team planned ahead for sustainable utility relocation, with future remediation in mind, which ensured minimal disruptions to residents in latter stages of construction. This allowed for greater productivity and minimized utility relocation and resident disruptions.

- Due to the uncertainty associated with the limit and quantity of excavation, USACE administered a cost-reimbursable construction contract using a pre-placed remedial action contractor (PRAC). This type of contracting mechanism allowed for greater flexibility, made it easier to manage the impact of potential quantity overruns, and reduced the risk to the PRAC. The down-side of cost reimbursable contracting is that it required a substantial administration effort. Monthly invoices were voluminous, since they included

backup for all costs that were directly reimbursed.

Section 10

Section 10
Contact Information

Table 10-1 summarizes the key project personnel contacts.

Table 10-1 Key Project Contacts

Name	Title	Organization	Address
Rich Puvogel	Project Manager	EPA	290 Broadway New York, NY 10038
Todd Daniels	Project Manager	USACE KC	601 East 12th Street Kansas City, MO 64106
Neal Kolb	Team Leader	USACE NY	26 Rustic Mall Manville, NJ 08835
Gordon McDonald	Project Manager	SES	2749 Lockport Road Niagara Fall, NY 14305
Kershu Tan	Project Manager	CDM	Raritan Plaza I, Raritan Center, Edison, NJ 08818

Section 11

Section 11
References

CDM. October 2000. *Federal Creosote Superfund Site OU I Phase I Remedial Design Analysis*

CDM. September 2000. *Groundwater and Sediments Draft Remedial Investigation Report*

CDM. September 1999. *Final Sampling and Analysis Plan*

EMDS. December 1999. *Asbestos Survey Report*

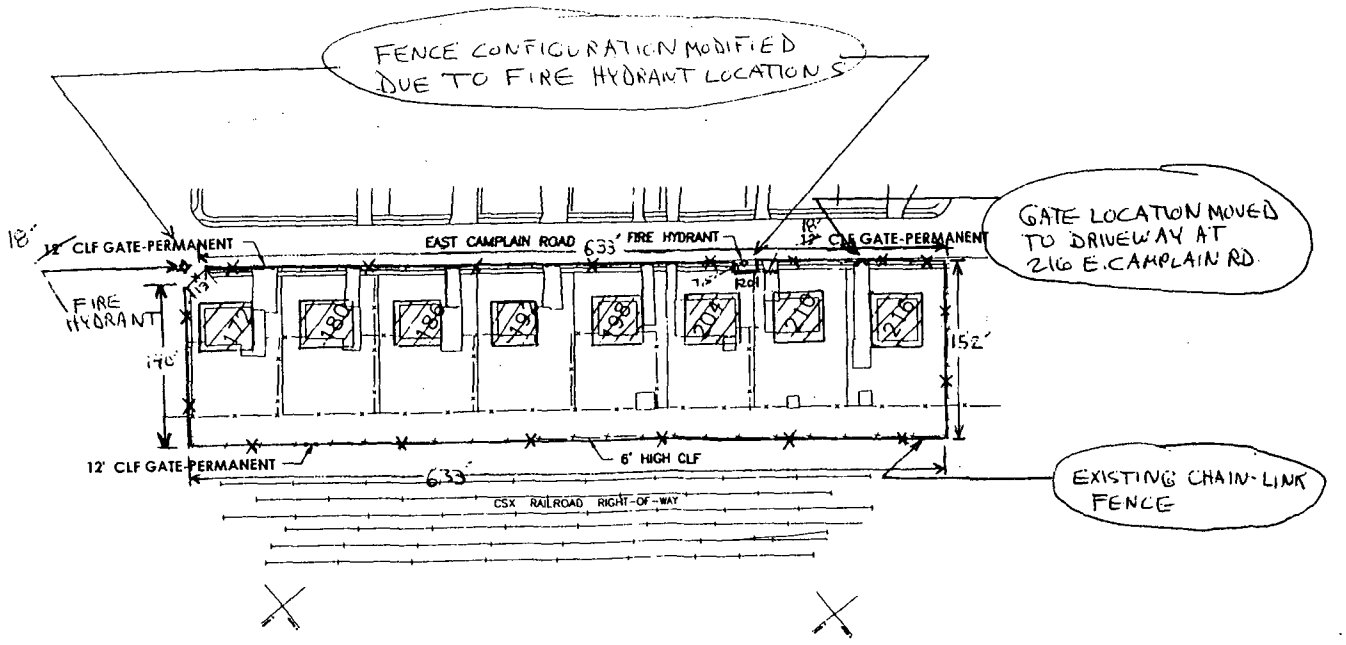
SES. April 2001. *Federal Creosote Superfund Site Wastewater Treatment Plant Operations & Maintenance Manual*

SES. September 2001. *Final Sampling and Analysis Plan for the Federal Creosote Superfund Site, OU1, Phase 1*

UAI Environmental, Inc. January/February 2001. *Federal Creosote Site Odor Control Evaluation*

Engineering Technologies. November 2000. *Pre Construction Vibration Survey*

Appendix A



RED-LINE DRAWINGS PREPARED BY PATRICK MULLEN, CAPE CORSM, ON 12/7/00.

AS-BUILT / RED-LINE DRAWINGS (12-7-00)

CHAIN LINK FENCE LAYOUT AND GEOMEMBRANE LINER LOCATIONS
172, 180, 186, 192, 198, 204, 210, 216
EAST CAMPLAIN ROAD
NOT TO SCALE

LEGEND

12' WIDE REMOVABLE GATES (ORIENTED)

GEOMEMBRANE LINER LOCATION

C A P E
ENVIRONMENTAL MANAGEMENT I N C
91 Nell Street
Waukegan, IL 60085
(847) 336-4341

REVISIONS

No.	Date	Remarks

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

PROJECT NAME:
FEDERAL CREOSOTE SUPERFUND SITE
DEMOLITION - LAGOON B
MANVILLE, NEW JERSEY

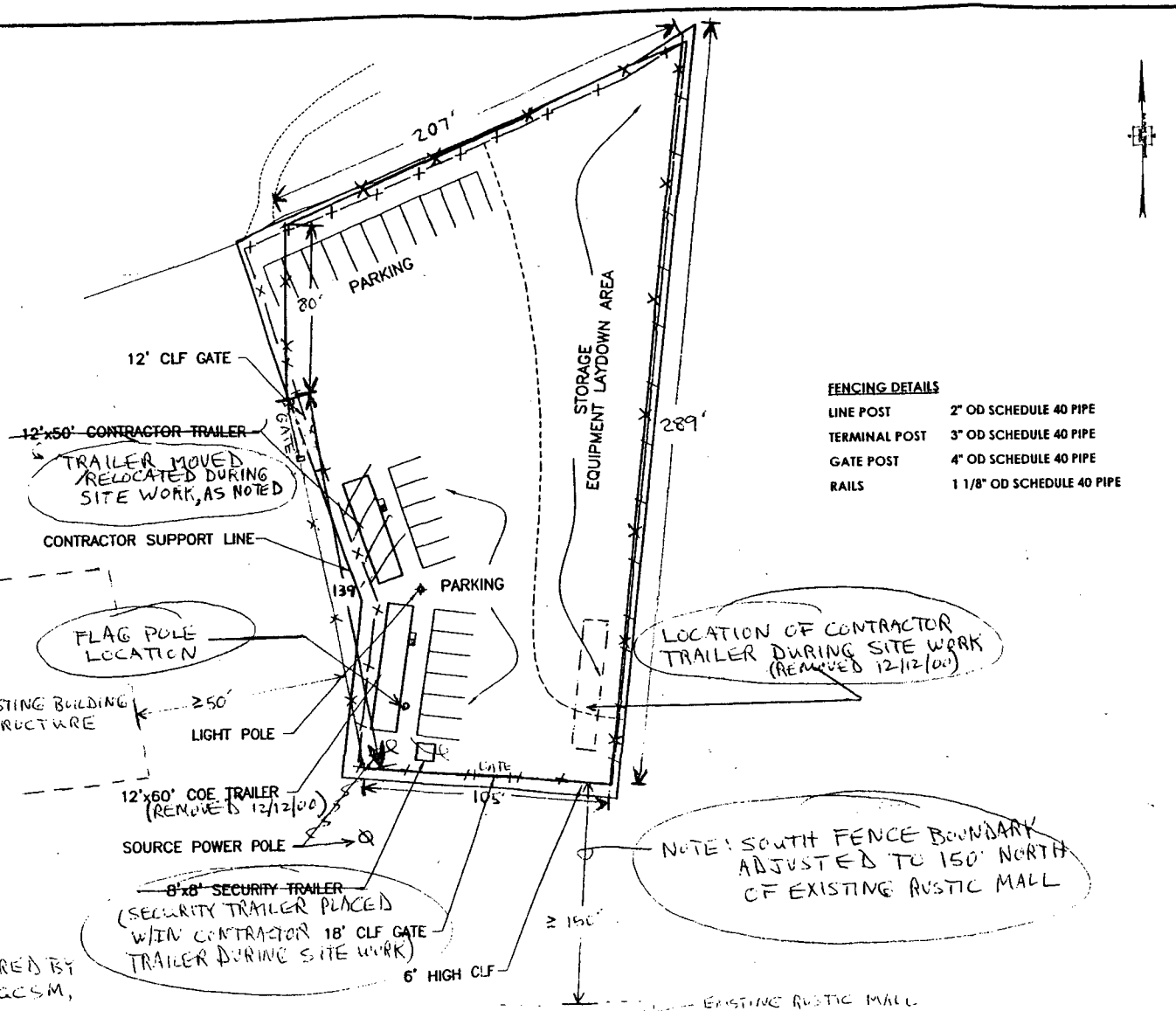
SHEET TITLE:
CHAIN LINK FENCE LAYOUT
172, 180, 186, 192, 198, 204, 210, 216
EAST CAMPLAIN ROAD
AS-BUILT

DO310.001.000

CLUSTER	C RIOS
	K.GATES
SCALE: 1" = 1'	SEP 00

501858

1 OF 5



FENCING DETAILS

LINE POST	2" OD SCHEDULE 40 PIPE
TERMINAL POST	3" OD SCHEDULE 40 PIPE
GATE POST	4" OD SCHEDULE 40 PIPE
RAILS	1 1/8" OD SCHEDULE 40 PIPE

RED-LINE DRAWINGS PREPARED BY PATRICK MULLEN, CAPE CCCSM, ON 12/--/00.

CONTRACTOR SUPPORT AND LAYDOWN AREA
NOT TO SCALE AS-BUILT / RED-LINE DRAWING (12-12-00)

501859

CAPE ENVIRONMENTAL MANAGEMENT INC
91 Nell Street
Waukegan, IL 60085
(847) 336-4341

REVISIONS:

No.	Date	Remarks

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS KANSAS CITY, MISSOURI

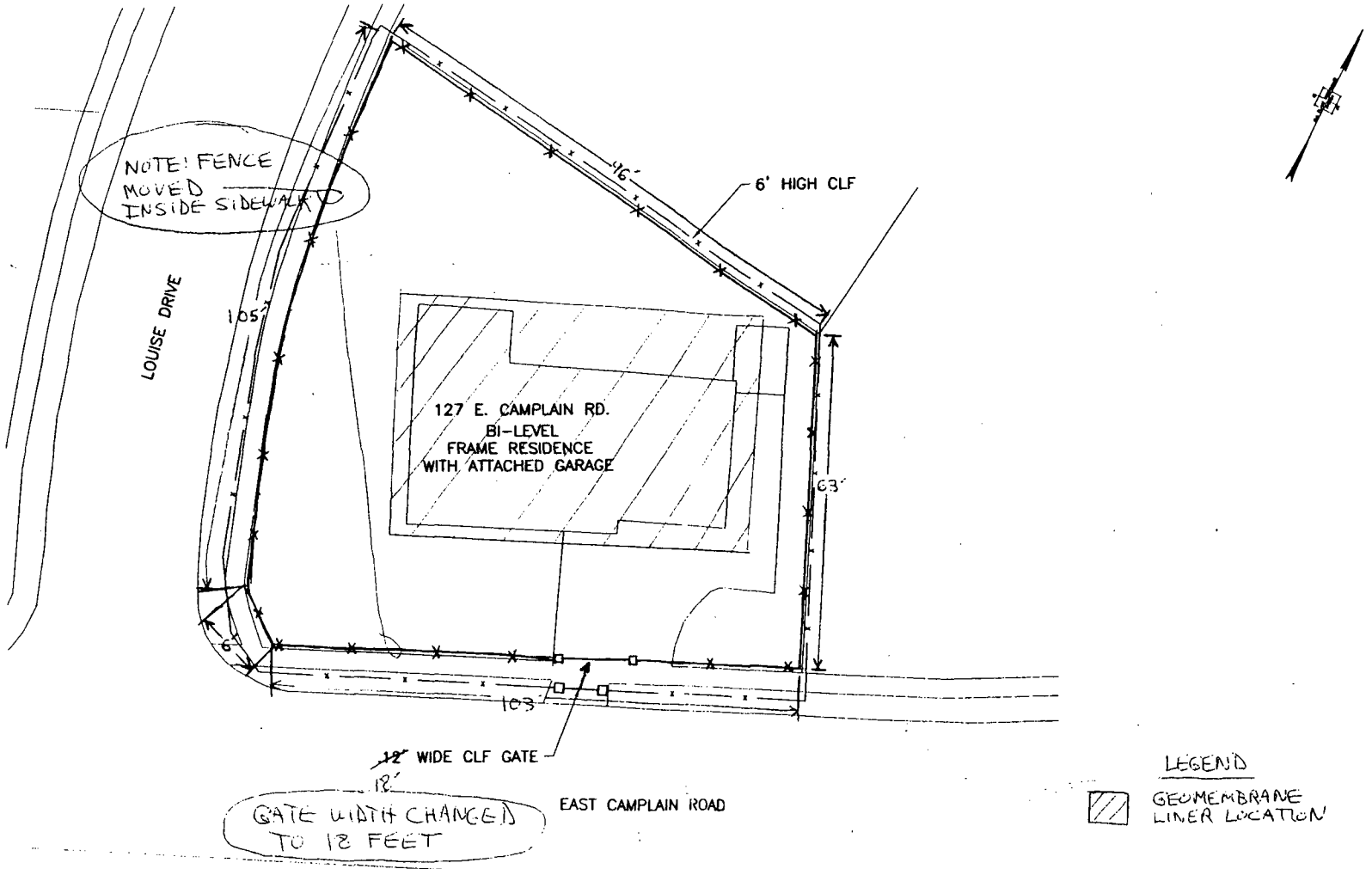
PROJECT NAME:
FEDERAL CREOSOTE SUPERFUND SITE DEMOLITION - LAGOON B MANVILLE, NEW JERSEY

SHEET TITLE:
CONTRACTOR SUPPORT AND LAYDOWN AREA
AS BUILT

00310.001.000

SITEPLAN	C.RIOS
	K.GATES
	SEP.00

2.15



RED-LINE DRAWINGS PREPARED BY KATHLEEN MULLEN CAPE CORSM ON 12/7/00.

AS-BUILT/RED-LINE DRAWING (12-7-00)

CHAIN LINK FENCE LAYOUT AND GEOMEMBRANE LINER LOCATION

127 EAST CAMPLAIN ROAD

NOT TO SCALE

501860

CAPE ENVIRONMENTAL MANAGEMENT INC
91 Nell Street
Waukegan, IL 60085
(847) 336-4341

REVISIONS
No | Date | Remarks

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

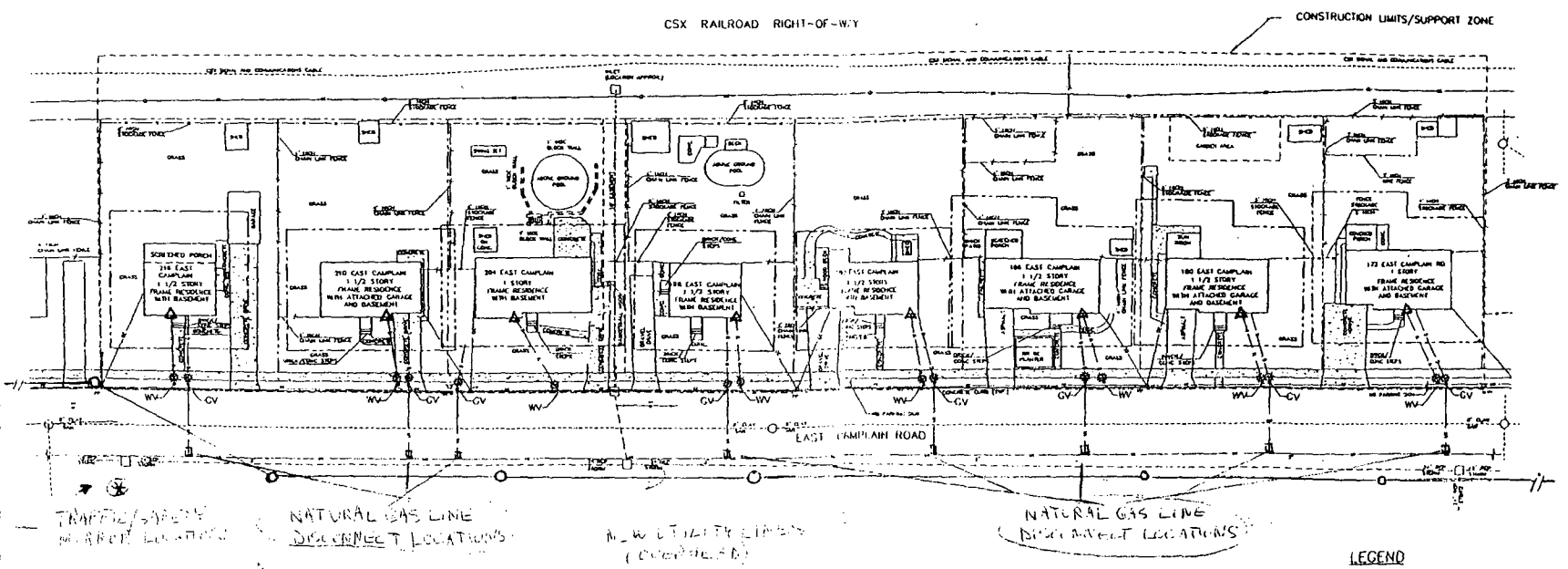
PROJECT NAME:
FEDERAL CREOSOTE SUPERFUND SITE
DEMOLITION - LAGOON B
MANVILLE, NEW JERSEY

SHEET TITLE:
CHAIN LINK FENCE LAYOUT
127 EAST CAMPLAIN ROAD
AS-BUILT

JOB NO. 00310.001.000
CLUSTER C
DRAWN BY C. RIOS
CHECKED BY K. GATES
SHEET 3 OF 5
DATE SEP.00

5

NOTE: ALL HOUSES FROM 172 TO 216 E CAMPLAIN RD WERE DEMOLISHED AS WERE ASSOCIATED IMPROVEMENTS (i.e., VEGETATION, LANDSCAPING, SHEDS, ABOVE-GROUND POOLS, ETC.). GAS LINE DISCONNECTS COMPLETED WITHIN THE STREET BY PSE&G. WATER LINE CAPPING WITHIN BASEMENTS COMPLETED BY CAPE ENV. MGMT INC. ALL WATER AND GAS METERS REMOVED. ALL SEWER LINES CUT AND CAPPED INSIDE BASEMENTS.



AS-BUILT LINE DRAWINGS PREPARED BY: PSE&G (NATURAL GAS LINE LOCATIONS), CAPE ENV. MGMT INC.

SITE LAYOUT MAP AS-BUILT/RED LINE DRAWING (12-7-00)
172, 180, 186, 192, 198, 204, 210, 216
EAST CAMPLAIN ROAD
SCALE: 1" = 50'-0"

LEGEND
- LOCATION WHERE UTILITY PIPE TO BE CUT AND CAPPED
- EXCLUSION ZONE
- NEW UTILITY POLE & LINES
- NATURAL GAS LINE DISCONNECT LOCATION
- WATER LINE CAPPING LOCATION

GRAPHIC SCALE
0 10' 50' 100'
SCALE: 1" = 50'

501861

4 of 5

CAPE ENVIRONMENTAL MANAGEMENT INC
91 Main Street
Raritan, NJ 08869
(908) 526-1311

REVISIONS

No	Date	Remarks

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

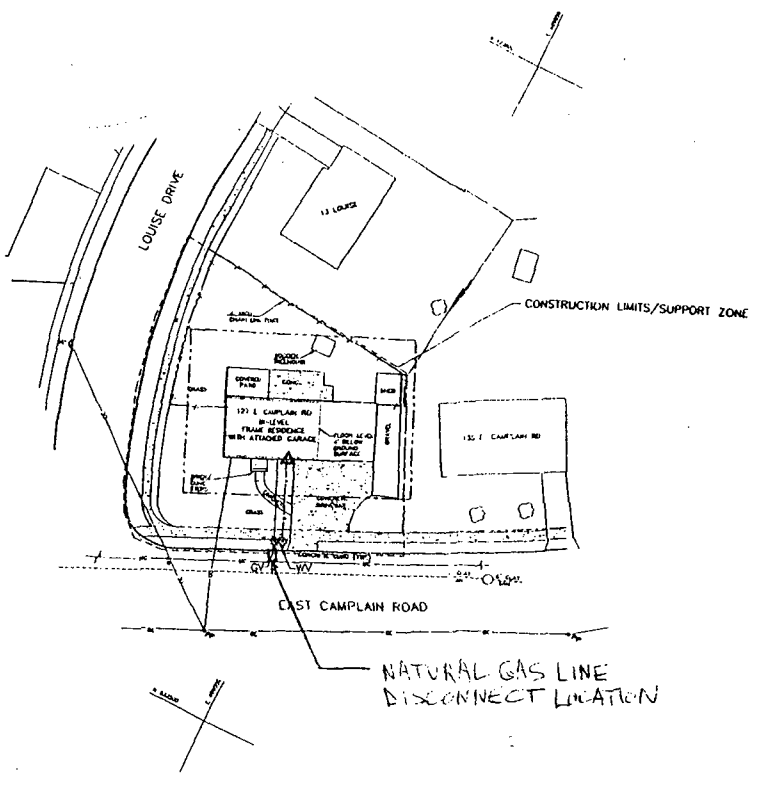
PROJECT NAME
FEDERAL DIOXOSITE SUPERFUND SITE
DEMOLITION - LACOUR & MANVILLE, NEW JERSEY

SHEET TITLE
SITE LAYOUT MAP
172, 180, 186, 192, 198, 204, 210, 216
EAST CAMPLAIN ROAD
AS-BUILT

CONTRACT NO. 00310.001.000

CLUSTER/B	C.RIOS
	K.GAITS.
	SEP.00

NOTE: 127 E. CAMPLAIN DEMOLITION COMPLETED. ALL STRUCTURES ALSO REMOVED (I.E., SITED) AS WERE VEGETATION AND LANDSCAPING. GAS LINE DISCONNECT AT STREET COMPLETED BY PSE&G. WATER LINE CAPPING WITHIN BASEMENT COMPLETED BY CAPE ENV. MGMT, INC. WATER AND GAS METERS REMOVED.



LEGEND

- LOCATION WHERE UTILITY PIPE TO BE CUT AND CAPPED
- EXCLUSION ZONE
- NATURAL GAS LINE DISCONNECT LOCATION
- WATER LINE CAPPING LOCATION

GRAPHIC SCALE
0' 10' 50' 100'
SCALE: 1" = 50'

SITE LAYOUT MAP AS BUILT, NOT FOR DRAWING (12-7-00)
127 EAST CAMPLAIN ROAD
SCALE: 1" = 50'-0"

REVISIONS

No.	Date	Remarks

CAPE ENVIRONMENTAL MANAGEMENT INC
91 Noll Street
Waukegan, IL 60085
(847) 336-4341

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

PROJECT NAME
FEDERAL CREOSOTE SUPERFUND SITE
DEMOLITION - LAGOON B
MANVILLE, NEW JERSEY

SHEET TITLE
SITE LAYOUT MAP
127 EAST CAMPLAIN ROAD
AS-BUILT

0031.0001.000

CLUSTER: C. HOS.
K. GATES

SHEET NO.
5 OF 5

501862

Appendix B

501863

12/06/2000 [illegible]

[illegible]
1009 N. [illegible]
Morrisville, PA 19067
(215) 736-9400
(215) 736-9475 (To Schedule)

[illegible] Tkt# 110450

ASBESTOS WASTE SHIPMENT RECORD

GENERATOR

1. WORK SITE NAME & MAILING ADDRESS	Owner's Name	Owner's Phone No.
Federal Creosote Superfund-Lagoon B 210 E. Camplain Rd. Manville, NJ 08835	Matt Ludvig Rich Puvogel	(908)243-0118 (212)637-4410

2. OPERATOR NAME & ADDRESS	Operator's Phone
Clean Mgmt. Environmental Group C/O Capp Environmental 915 Industrial Rd. P.O. Box 1606 2301 Parklane Dr. Walterboro, SC 29488 Atlanta, GA 30345	(843)538-8731,

3. WASTE DISPOSAL SITE: CIRCLE ONE

G.R.O.W.S., Inc.
1513 Bordentown Road
Morrisville, PA 19067
(215) 736-9475
110 miles

Tullytown Resource Recovery Facility
200 Bordentown Road
Tullytown, PA 19007
(215) 943-9732

4. NAME and ADDRESS OF RESPONSIBLE AGENCY
N.J. Dept. of Environmental Protection
Div. of Solid & Razardous Waste
CN 414 120 So. Stockton St. Trenton, NJ 08625

5. DESCRIPTION OF MATERIALS	6. CONTAINERS (bags/drums)	7. QUANTITY
CIRCLE ONE: FRIABLE — NON-FRIABLE	no. 411 type bags	40 yds.

PROFILE/WASTE STREAM ID NUMBER: 36459?

8. SPECIAL HANDLING INSTRUCTIONS: (Friable Asbestos Only) Waste double bagged and prowetted with an approved wetting agent. Asbestos, 9, NA2212, III, RQ

9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

Printed/Typed Name and Title	Signature	Date
[illegible]	[signature]	12/1/00

TRANSPORTER

10. TRANSPORTER (Acknowledgment of receipt of materials)
Address and Phone No.
Waste Management
919 Fairmount Ave.
Elizabeth, NJ 07201 (908)965-3900

Printed/Typed Name and Title	Signature	Date
Thomas Sullivan	[signature]	12/1/00

DISPOSAL FACILITY

11. DISCREPANCY INDICATION SPACE:

12. WASTE DISPOSAL SITE – Owner or Operator:
Certification of receipt of asbestos materials covered by this manifest except as noted in item 11.

Printed/Typed Name and Title	Signature	Date
Susan Krahnke	[signature]	12/1/00

MAILER

12/06/00 16:25 8035387845 CLEAN MGMT. ENV. 004

501864

WASTE MANAGEMENT OF PENNSYLVANIA, INC.
1000 New Ford Mill Road
Morrisville, PA 19067
(215) 736-9400
(215) 736-9475 (To Schedule)

Document Reference No.: 97 A 04490

1 DD15

ASBESTOS WASTE SHIPMENT RECORD

GENERATOR

1. WORK SITE NAME & MAILING ADDRESS	Owner's Name	Owner's Phone No.
Federal Creosote Superfund-Lagoon 8 172 E. Camplain Rd. Manville, NJ 08835	Matt Ludwig Rich Puvogel	(908)243-0118 (212)637-4410

2. OPERATOR NAME & ADDRESS		Operator's Phone
Clean Mgmt. Environmental Group C/O 915 Industrial Rd. P.O. box 1606 Walterboro, SC 29488	Cape Environmental 2301 Parklane Dr. Atlanta, GA 30345	(843)538-8131

3. WASTE DISPOSAL SITE: CIRCLE ONE

G.R.O.W.S., Inc.
1513 Bordentown Road
Morrisville, PA 19067
(215) 736-9475

Tullytown Resource Recovery Facility
210 Bordentown Road
Tullytown, PA 19007
(215) 943-9732

4. NAME and ADDRESS OF RESPONSIBLE AGENCY
N.J. Dept. of Environmental Protection
Div. of Solid & Hazardous Waste
CN 414 120 So. Stockton St. Trenton, NJ 08625

5. DESCRIPTION OF MATERIALS	6. CONTAINERS (bags/drums)	7. QUANTITY
CIRCLE ONE: FRIABLE ~~NON-FRIABLE~~	no. 50 type 1	40 yds.
PROFILE/WASTE STREAM ID NUMBER: 204503		

8. SPECIAL HANDLING INSTRUCTIONS: (Friable Asbestos Only) Waste double bagged and prewetted with an approved wetting agent. Asbestos, 9, NA2212, III, RQ

9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

Printed/Typed Name and Title	Signature	Date
BRIAN J. DUFFY FOR USE OF USEPA ON BEHALF	Brian J. Duffy	11/16/00

TRANSPORTER

10. TRANSPORTER (Acknowledgment of receipt of materials)
Address and Phone No. Waste Management
919 Fairmount Ave.
Elizabeth, NJ 07201 (908)965-3900

Printed/Typed Name and Title	Signature	Date
T. Williams		11/16/00

DISPOSAL FACILITY

11. DISCREPANCY INDICATION SPACE:

12. WASTE DISPOSAL SITE – Owner or Operator:
Certification of receipt of asbestos materials covered by this manifest except as noted in Item 11.

Printed/Typed Name and Title	Signature	Date
WM Stevens/LR		11-16-00

WASTE MANAGEMENT OF PENNSYLVANIA, INC.
1000 New Ford Mill Road
Morrisville, PA 19067
(215) 736-9400
(215) 736-9475 (To Schedule)

Document Reference No.: 87 A 04441

NR Rode 1800-424 8802 106074

ASBESTOS WASTE SHIPMENT RECORD

1. WORK SITE NAME & MAILING ADDRESS Federal Creosote Superfund-Lagoon B ~~177~~ E. Camplain Rd. Manville, NJ 08835	Owner's Name Matt Ludwig Rich Puvogel	Owner's Phone No. (908)243-0118 (212)637-4410
2. OPERATOR NAME & ADDRESS Clean Mgmt. Environmental Group C/O Cape Environmental 915 Industrial Rd. P.O. Box 1606 2300 Parklane Dr. Walterboro, SC 29488 Atlanta, Ga. 30345		Operator's Phone (843)538-8731

GENERATOR

3. WASTE DISPOSAL SITE: CIRCLE ONE

G.R.O.W.S., Inc.
1513 Bordentown Road
Morrisville, PA 19067
(215) 736-9475

Tullytown Resource Recovery Facility
200 Bordentown Road
Tullytown, PA 19007
(215) 943-9732

4. NAME and ADDRESS OF RESPONSIBLE AGENCY
N.J. Dept. of Environmental Protection
Div. of Solid & Hazardous Waste
CN 414 120 So. Stockton St. Trenton, NJ 08625

5. DESCRIPTION OF MATERIALS	6. CONTAINERS (bags/drums)	7. QUANTITY
CIRCLE ONE: FRIABLE NON-FRIABLE	NO. 1 TYPE [illegible]	40 yds.

PROFILE/WASTE STREAM ID NUMBER: 304597

8. SPECIAL HANDLING INSTRUCTIONS: (Friable Asbestos Only) Waste double bagged and prewetted with an approved wetting agent. Asbestos, 9, NA2212, III, RQ

9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

Printed/Typed Name and Title	Signature	Date
MATTHEW A. LUDWIG, Civil Engineer	[signature]	11/7/00

TRANSPORTER

10. TRANSPORTER (Acknowledgment of receipt of materials)
Address and Phone No. Waste Management
919 Fairmount Ave.
Elizabeth, NJ 0720[illegible] (908)965-3900

Printed/Typed Name and Title	Signature	Date
[illegible]	[signature]	[illegible]-9-00

DISPOSAL FACILITY

11. DISCREPANCY INDICATION SPACE:

12. WASTE DISPOSAL SITE – Owner or Operator:
Certification of receipt of asbestos materials covered by this manifest except as noted in item 11.

Printed/Typed Name and Title	Signature	Date
[illegible]		

501866

Appendix C

501867

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 0805
Telephone: 856-231-9449 Fax: 856-231-981

CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/07/2000
Date Received: 10-31-00
Project: EPA/Fed Creosote,Bldgs 127&172
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
1176102	127-01	Background Bsmt Recreation Rm	1021 L	2.55	<0.0026
1176103	127-02	Background Landing At Bottom Of Steps	1037 L	2.55	<0.0026
1176104	127-03	Background Garage Area Where Clean Room Will Be	1037 L	2.55	<0.0026
1176105	127-04	Background Out Back Of Garage Downwind	1037 L	2.55	<0.0026
1176106	172-05	Background In Kitchen;Over Sink	1088 L	2.55	<0.0025
1176107	172-06	Background Back Of House Center; Downwind	1080 L	2.55	<0.0025
1176108	172-07	Background Living Room; Future Clean Room Location	1088 L	2.55	<0.0025

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm2.

Analysis Performed By: Benjamin Reich, AIHA-AAR 4879

Approved By:

Frank E. Ehrenfeld, III
Laboratory Director

501868

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/07/2000
Date Received: 10-31-00
Project: EPA/Fed Creosote,Bldgs 127&172
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
1176109	172-08	Background Front Of House At Entrance Door	1062 L	2.55	<0.0025
1176110	172-09	Field Blank	0 L	1.27	N/A
1176111	172-10	Field Blank	0 L	1.27	N/A

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm2.

Analysis Performed By: Benjamin Reich, AIHA-AAR 4879

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director

501869

IATL *International Asbestos Testing Laboratories*

16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/09/2000
Date Received: 11-02-00
Project: Federal Creosote, 11-1-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

	Lab No.	Client #	Description / Location		Volume	Density Fibers/mm2	Concentration Fibers/cc
*	1177370	180-01	Background Bldg 180; Hall		1122 L	2.55	<0.0024
	1177371	180-02	Background Bldg 180; Kitchen		1104 L	7.64	0.0027
	1177372	180-03	Background Bldg 180; Outside	Kitchen Window	1131 L	4.46	<0.0024
	1177373	180-04	Background Bldg 180; Downwind	Back Corner	1122 L	2.55	<0.0024
	1177374	186-12	Background Bldg 186; Kitchen		1021 L	2.55	<0.0026
*	1177375	186-13	Background Bldg 186; Family Rm	FutureDeconLocation	1046 L	3.82	<0.0026
	1177376	186-14	Background Bldg 186; Kitchen	Window;FutureAFDLoc	1037 L	2.55	<0.0026

* Sample integrity compromised. Received with cassette opened.

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm2.

Analysis Performed By: Benjamin Reich, AIHA-AAR 4879
Date: NOV 0 8 2000

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director

501870

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/07/2000
Date Received: 11-02-00
Project: Federal Creosote, 11-1-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
1177377	186-15	Background Bldg 186;Side Window	1037 L	3.82	<0.0026

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm2.

Analysis Performed By: Benjamin Reich, AIHA-AAR 4879

Approved By:

Frank E. Ehrenfeld, III
Laboratory Director

Date: NOV 0 2 2000

501871

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 0
Telephone: 856-231-9449 Fax: 856-231-

CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/09/2000
Date Received: 11-02-00
Project: Federal Creosote,Bldg 127,11-1-
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

	Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
	1177378	127-05	Outside Work Area At Front Door Critical Barrier	910 L	2.55	<0.0030
*	1177379	127-06	Outside Work Area AFD Exhaust	910 L	2.55	<0.0030
	1177380	127-07	Outside Work Area Clean Room	907 L	3.82	<0.0030
*	1177381	127-08	Inside Work Area	872 L	93.00	0.0410
*	1177382	127-09	Excursion Rogers Lee; [redacted] Floor Tile Removal	44 L	17.20	0.1500
	1177383	127-10	Personal Rogers Lee [redacted] Floor Tile Removal	76 L	18.50	0.0940
	1177384	127-11	Personal Rogers Le [redacted] Floor Tile Removal	256 L	26.80	0.0400

* Possible surface contamination.

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm2.

Analysis Performed By: Benjamin Reich, AIHA-AAR 4879
Date: NOV 0 2 2000

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

501872

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/07/2000
Date Received: 11-02-00
Project: Federal Creosote,Bldg 127,11-1-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
1177385	127-16	Field Blank	0 L	1.27	N/A
1177386	127-17	Field Blank	0 L	1.27	N/A

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm2.

Analysis Performed By: Benjamin Reich, AIHA-AAR 4879

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

Date: NOV 0 8 2000

501873

IATL International Asbestos Testing Laboratories

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CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/07/2000
Date Received: 11-02-00
Project: Federal Creosote,Bldg 127,11-2-0
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
1177592	1102-01	Outside Work Area Clean Room	585 L	2.55	<0.0046
1177593	1102-02	Outside Work Area On Steps At Critical Barrier	588 L	2.55	<0.0046
1177594	1102-03	Outside Work Area AFD Exhaust	592 L	2.55	<0.0046
1177595	1102-04	Inside Work Area Work Area North End	557 L	8.92	0.0062
1177596	1102-05	Excursion Eva Fletcher [redacted] Fine Clean	41 L	3.82	<0.066
1177597	1102-06	Personal Eva Fletcher [redacted] Fine Clean	222 L	3.82	<0.012
1177598	1102-07	Clean Room	536 L	2.55	<0.0050
1177599	1102-08	Downwind;SE Corner Of Site 127	532 L	2.55	<0.0051

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm2.

Analysis Performed By: Benjamin Reich, AIHA-AAR 4879

Date: NOV 0 2 2000

Approved By:

Frank B. Ehrenfeld, III
Laboratory Director

501874

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: *Cape Environmental Management*
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/09/2000
Date Received: 11-02-00
Project: Federal Creosote,Bldg 127,11-2-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
1177600	1102-09	Inside Work Area Inside Barrier Tape During Removal	630 L	2.55	<0.0043
1177601	1102-10	Excursion Charles Booker Transite Siding Rem	33 L	2.55	<0.082
1177602	1102-11	Charles Booker Transite Siding Rem	220 L	2.55	<0.012
1177603	1102-12	Final Clearance Inside Family Room	1216 L	2.55	<0.0022
1177604	1102-13	Final Clearance Inside Kitchen Area	1216 L	2.55	<0.0022
1177605	1102-14	Final Clearance Inside Bedroom Area	1207 L	2.55	<0.0022
1177606	1102-15	Field Blank	0 L	1.27	N/A
1177607	1102-16	Field Blank	0 L	1.27	N/A

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm2.

Analysis Performed By: Benjamin Reich, AIHA-AAR 4879
NOV 0 8 '00

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

501875

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 0805-
Telephone: 856-231-9449 Fax: 856-231-981

CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/10/2000
Date Received: 11-06-00
Project: Federal Creosote,Bldg 127,11-6-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
1178830	1106-01	Outside Work Area Clean Room; Decon	1206 L	2.55	<0.0022
1178831	1106-02	Outside Work Area SE Corner Of Lot Downwind	1005 L	2.55	<0.0027
1178832	1106-03	Outside Work Area NE Corner Of Lot Downwind	1008 L	2.55	<0.0027
1178833	1106-04	Inside Work Area NW Corner Of Work Area	1005 L	2.55	<0.0027
1178834	1106-05	Excursion Rogers Le[redacted] Transite Removal	43 L	2.55	<0.063
1178835	1106-06	Personal Rogers Le[redacted] Transite Removal	474 L	3.82	<0.0057
1178836	1106-07	Personal Rogers Le[redacted] Transite Removal	206 L	33.10	0.0620

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm2.

Analysis Performed By: Benjamin Reich, AIHA-AAR 4879
Date: NOV 07 2000

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director

501876

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9815

CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/10/2000
Date Received: 11-06-00
Project: Federal Creosote,Bldg 127,11-6-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
1178837	1106-08	Field Blank	0 L	1.27	N/A
1178838	1106-09	Field Blank	0 L	1.27	N/A

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm2.

Analysis Performed By: Benjamin Reich, AIHA-AAR 4879

Date: NOV 07 2000

Approved By:

Frank E. Ehrenfeld, III
Laboratory Director

501877

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ (
Telephone: 856-231-9449 Fax: 856-231

CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/10/2000
Date Received: 11-08-00
Project: Federal Creosote Site, 11-7-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
1179836	1107-01	Outside Work Area Clean Room; Decon Bldg 127	1044 L	2.55	<0.0026
1179837	1107-02	Outside Work Area N End Of Compound Bldg 127	1044 L	2.55	<0.0026
1179838	1107-03	Outside Work Area NE End Of Compound Bldg 127	870 L	2.55	<0.0031
1179839	1107-04	Inside Work Area Bldg 127	868 L	2.55	<0.0031
1179840	1107-05	Excursion Charles Booker [redacted];TransRem	34 L	2.55	<0.079
1179841	1107-06	Personal Charles Booker [redacted]ransRem	358 L	14.70	0.0160
1179842	1107-07	Personal Charles Booker [redacted]ransRem	192 L	31.20	0.0630

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm2.

Analysis Performed By: Benjamin Reich, AIHA-AAR 4879

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

501878

Date: NOV 0 0 2000

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 0805
Telephone: 856-231-9449 Fax: 856-231-981

CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/10/2000
Date Received: 11-08-00
Project: Federal Creosote Site, 11-7-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
1179843	1107-08	Background Bldg 192; Kitchen	1233 L	2.55	<0.0022
1179844	1107-09	Bldg 192 Kitchen; South End	1241 L	5.10	<0.0022
1179845	1107-10	Bldg 192 Kitchen; Out Window	1241 L	11.50	0.0036
1179846	1107-11	Bldg 192; Inside Living Rm; Where Decon Will Be	1241 L	2.55	<0.0022
1179847	1107-12	Bldg 204 Kitchen; Center	1207 L	5.73	<0.0022
1179848	1107-13	Bldg 204 Basement Left Of Steps	1216 L	3.82	<0.0022
1179849	1107-14	Bldg 204 *Living Room Future Decon Site*	1207 L	2.55	<0.0022

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

501879

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm2.

Analysis Performed By: Benjamin Reich, AIHA-AAR 4879

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

Date: NOV 0 8 2000

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9811

CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/10/2000
Date Received: 11-08-00
Project: Federal Creosote Site, 11-7-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
1179850	1107-15	Bldg 204 Outside Kitchen Windows	1190 L	2.55	<0.0023
1179851	1107-16	Field Blank	0 L	1.27	NA
1179852	1107-17	Field Blank	0 L	1.27	NA

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm2.

501880

Analysis Performed By: Benjamin Reich, AIHA-AAR 4879

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ (
Telephone: 856-231-9449 Fax: 856-231

CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/10/2000
Date Received: 11-09-00
Project: Federal Creosote Site, 11-8-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
1180485	1108-01	Background In Kitchen Area Of Bldg 210	1149 L	2.55	<0.0022
1180486	1108-02	Background Living Rm;Where Decon Will Be;Bld210	1190 L	2.55	<0.0023
1180487	1108-03	Background In Hallway Of Bld210	1190 L	2.55	<0.0023
1180488	1108-04	Background Outside Kitchen Window Of Bld 210	1190 L	2.55	<0.0023
1180489	1108-05	Excursion Eva Fletcher [redacted]ep 172	64 L	5.10	<0.042
1180490	1108-06	Personal Eva Fletcher [redacted]Prep 172	176 L	3.18	<0.015
1180491	1108-07	Personal Eva Fletcher [redacted]Prep 180	302 L	12.70	0.0160

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm2.

Analysis Performed By: Benjamin Reich, AIHA-AAR 4879

501881

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/14/2000
Date Received: 11-09-00
Project: Federal Creosote Site, 11-8-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
1180492	1108-08	Background Bldg 216; Kitchen	1199 L	2.55	<0.0022
1180493	1108-09	Background Bldg 216; Hall Next To Kitchen	1199 L	2.55	<0.0022
1180494	1108-10	Background Living Rm;Where Decon Will Be	1190 L	2.55	<0.0023
1180495	1108-11	Background Out Kitchen Window	1182 L	2.55	<0.0023
1180496	1108-12	Field Blank	0 L	1.27	NA
1180497	1108-13	Field Blank	0 L	1.27	NA

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm2.

Analysis Performed By: Benjamin Reich, AIHA-AAR 4879

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

501882

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 08
Telephone: 856-231-9449 Fax: 856-231-9

CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/16/2000
Date Received: 11-10-00
Project: Federal Creosote Site, 11-9-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
1180997	1109-01	OWA; Clean Room Floor Tile Area 172	950 L	7.64	0.0031
1180998	1109-02	OWA;OutsideCleanRm. Living Room 17	478 L	10.20	0.0082
1180999	1109-03	OWA; AFD Exhaust Floor Tile Area	475 L	2.55	<0.0057
1181000	1109-04	IWA; Work Area Floor Tile 172	463 L	2.55	<0.0058
1181001	1109-05	EX.; Charles Booker [redacted] Transite Removal	62 L	3.82	<0.044
1181002	1109-06	P; Charles Booker [redacted] Transite Removal	326 L	139.00	0.1600
1181003	1109-07	P; Charles Booker [redacted] Transite Removal	248 L	2.55	<0.011

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm2.

Analysis Performed By: Becky Hentzinger
Becky Hentzinger

Approved By: Frank Ehrenfeld

501883

Frank E. Ehrenfeld, III
Laboratory Director

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CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/16/2000
Date Received: 11-10-00
Project: Federal Creosote Site, 11-9-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
1181004	1109-08	Work Area Outside Front	915 L	5.73	<0.0029
1181005	1109-09	Outside Work Area At C&D Dumpster Downwind	910 L	3.82	<0.0030
1181006	1109-10	Work Area Back Of House W. Side At Fence	313 L	2.55	<0.0086
1181007	1109-11	Field Blank	0 L	1.27	N/A
1181008	1109-12	Field Blank	0 L	1.27	N/A

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
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Limit of detection based upon 7 f/mm2.

Analysis Performed By: Becky Huntzinger
Becky Huntzinger 501884

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director

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CERTIFICATE OF ANALYSIS

Client: *Cape Environmental Management*
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/16/2000
Date Received: 11-08-00
Project: Federal Creosote-Site, 11-10-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
1181360	1110-01	Clean Room Decon Bldg180;Ext Transite	1212 L	1.27	<0.0022
1181361	1110-02	NE Corner Of 180 Downwind	1209 L	1.27	<0.0022
1181362	1110-03	NW Corner Of 180 Downwind	1206 L	1.27	<0.0022
1181363	1110-04	Work Area NW Corner Of Bg180	1203 L	1.27	<0.0022
1181364	1110-05	Field Blank	0 L	1.27	N/A
1181365	1110-06	Field Blank	0 L	1.27	N/A

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm2.

Analysis Performed By: Becky Huntzinger
Becky Huntzinger

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director

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NOV 1 - 2000

IATL International Asbestos Testing Laboratories

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CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/21/2000
Date Received: 11-13-00
Project: Federal Creosote Site, 11-13-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
1181688	1113-01	Outside Work Area Living Rm; Bldg 172	1675 L	20.40	0.0047
1181689	1113-02	Outside Work Area Clean Rm Decon Bldg 172	1670 L	22.90	0.0053
1181690	1113-03	Excursion Hublio Cruz Sheet Vinyl Flr Demo	60 L	20.40	0.1300
1181691	1113-04	Hublio Cruz Sheet Vinyl Flr Demo	414 L	Void	Void
1181692	1113-05	AFD Exhaust Bldg 172	1053 L	7.64	0.0029
1181693	1113-06	NW Corner Of 180 Lot Downwind	958 L	6.37	<0.0028
1181694	1113-07	SW Corner Of 100 Lot Downwind	528 L	7.64	0.0056
1181695	1113-08	SE Corner Of 100 Lot Downwind	420 L	4.46	<0.0064

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm2.

Analysis Performed By: MUHAMMAD I. MIRZA

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

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CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/21/2000
Date Received: 11-13-00
Project: Federal Creosote Site, 11-13-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
1181696	1113-09	Mario Penaherrena Transite Removal	925 L	26.80	0.0110
1181697	1113-10	Final Left Side Of Kitchen	1125 L	5.73	<0.0024
1181698	1113-11	Final Right SideOf Kitchen	1125 L	6.37	<0.0024
1181699	1113-12	Final Middle Of Kitchen	1125 L	24.20	0.0083
1181700	1113-13	Field Blank	0 L	1.27	NA
1181701	1113-14	Field Blank	0 L	1.27	NA

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm2.

Analysis Performed By: MUHAMMAD T. MIRZA 501887

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

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CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
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Exton PA 19341-2564

Report Date: 11/20/2000
Date Received: 11-15-00
Project: Federal Creosote Site, 11-14-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location		Volume	Density Fibers/mm2	Concentration Fibers/cc
1182435	1114-01	Outside Work Area Clean Rm Decon	At Bldg 180	1750 L	10.20	0.0029
1182436	1114-02	Outside Work Area On Porch Outside	Decon	1755 L	2.55	<0.0015
1182437	1114-03	Outside Work Area AFD Exhaust At 180		875 L	2.55	<0.0031
1182438	1114-04	Personal Hublio Cruz	Sheet Vinyl Flr Demo	366 L	Void	Void
1182439	1114-05	Excursion Hublio Cruz	Sheet Vinyl Flr Demo	60 L	103.00	0.6600
1182440	1114-06	Inside Work Area Bsmt Of 192; During	Pickup Lifting Tiles	222 L	2.55	<0.012
1182441	1114-07	Personal Eva Fletcher	Floor Tile Cleanup	218 L	3.82	<0.012

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
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Limit of detection based upon 7 f/mm2.

Analysis Performed By: Benjamin Reich, AIHA-AAR 4879

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

Date:

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CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/20/2000
Date Received: 11-15-00
Project: Federal Creosote Site, 11-14-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
1182442	1114-08	Clearance Living Rm Nx To AFD	1169 L	7.01	<0.0023
1182443	1114-09	Clearance Hallway; By Bathroom	1169 L	14.70	0.0048
1182444	1114-10	Clearance Kitchen; By Sink	1159 L	12.70	0.0042
1182445	1114-11	Field Blank	0 L	1.27	NA
1182446	1114-12	Field Blank	0 L	1.27	NA

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

501889

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm2.

Analysis Performed By: Benjamin Reich, AIHA-AAR 4879

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

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CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/27/2000
Date Received: 11-16-00
Project: Federal Creosote Site, 11-15-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
1182779	1115-01	Out Of Work Area N.E. Corner; Lot 192	660 L	1.27	<0.0041
1182780	1115-02	Out Of Work Area N.W. Corner; Lot 192	663 L	1.27	<0.0041
1182781	1115-03	In Work Area W. Side; Bldg.192	710 L	2.55	<0.0038
1182782	1115-04	Personal Charles Booker Transite Removal	694 L	15.30	0.0085
1182783	1115-05	Out Of Work Area N.E. Corner; Lot 198	275 L	6.37	<0.0098
1182784	1115-06	Out Of Work Area N.W. Corner; Lot 198	273 L	2.55	<0.0099
1182785	1115-07	Clearance S.End Of 192 Basement - Final	1216 L	15.30	0.0048

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

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Limit of detection based upon 7 f/mm2.

501890

Analysis Performed By: Graciela Manjarres N., AIHA-AAR 4529

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

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CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/28/2000
Date Received: 11-16-00
Project: Federal Creosote Site, 11-15-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location		Volume	Density Fibers/mm2	Concentration Fibers/cc
1182786	1115-08	Clearance E. Side Of 192	Basement - Final	1207 L	19.10	0.0061
1182787	1115-09	Clearance W. Side Of 192	Basement - Final	1207 L	20.40	0.0065
1182788	1115-10	Field Blank		0 L	1.27	N/A
1182789	1115-11	Field Blank		0 L	1.27	N/A
1182790	1115-01P	Lagoon B; Demolition Casey Siwula	326-58-3053	388 L	107.00	0.1100

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
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Limit of detection based upon 7 f/mm2.

501891

Analysis Performed By: Graciela Manjarres N., AIHA-AAR [illegible]

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

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CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/29/2000
Date Received: 11-17-00
Project: Federal Creosote Site, 11-16-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
1184060	1116-01	Out Of Work Area N.W. Corner; 198 Lot Bldg. 198; Exterior	988 L	3.82	<0.0027
1184061	1116-02	Out Of Work Area N.E. Corner; Lot 198 Bldg. 198; Exterior	988 L	31.90	0.0120
1184062	1116-03	Out Of Work Area Clean Room; Decon Bldg. 198; Exterior	985 L	2.55	<0.0027
1184063	1116-04	Personal; Rogers Lee Transite Removal Bldg. 198; Exterior	752 L	48.40	0.0250
1184064	1116-05	Field Blank	0 L	1.27	N/A
1184065	1116-06	Field Blank	0 L	1.27	N/A

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

501892

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm2.

Analysis Performed By: Graciela Manjarres N., AIHA-AAR 4529

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

Date: NOV 2 9 2000

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CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/29/2000
Date Received: 11-17-00
Project: Federal Creosote Site, 11-17-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
1184066	1117-01	Out Of Work Area N.W. Corner, Lot 204 Bldg. 204 & 210	788 L	6.37	<0.0034
1184067	1117-02	Out Of Work Area N.E. Corner; Lot 204 Bldg. 204 & 210	785 L	3.82	<0.0034
1184068	1117-03	In Work Area Rear Of 204 Bldg. 204 & 210	788 L	5.10	<0.0034
1184069	1117-04	Out Of Work Area CleanRoom;DeconAt198 Bldg. 204 & 210	755 L	6.37	<0.0036
1184070	1117-05	Field Blank	0 L	1.27	N/A
1184071	1117-06	Field Blank	0 L	1.27	N/A

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
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Limit of detection based upon 7 f/mm2.

Analysis Performed By: Graciela Manjarres N.

Graciela Manjarres N., AIHA-AAR 4029

Approved By: Frank Ehrenfeld

Frank E. Ehrenfeld, III
Laboratory Director

Date: NOV 2 2000

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IATL International Asbestos Testing Laboratories

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CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/30/2000
Date Received: 11-27-00
Project: Federal Creosote Site, 11-27-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location		Volume	Density Fibers/mm2	Concentration Fibers/cc
1186300	1127-01	Outside Work Area Clean Rm Decon	In 204	1340 L	3.82	<0.0020
1186301	1127-02	Outside Work Area Outside Decon	In 204	1330 L	2.55	<0.0020
1186302	1127-03	Inside Work Area Kitchen Of 204		338 L	38.20	0.0440
1186303	1127-04	Personal Hublio Cruz	Floor Sheeting Demo	262 L	65.60	0.0960
1186304	1127-05	Personal Hublio Cruz	Transite Removal	500 L	22.30	0.0170
1186305	1127-06	Outside Work Area NE Corner Of Lot 210		628 L	3.82	<0.0043
1186306	1127-07	Outside Work Area NW Corner Of Lot 210		625 L	1.27	<0.0043

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm2.

Analysis Performed By: Vans G. Smith Jr.
Vans G. Smith, II, AIHA-CAC 4719

Approved By: Frank Ehrenfeld

Date: NOV 0 1 2000

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Frank E. Ehrenfeld, III
Laboratory Director

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CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/30/2000
Date Received: 11-27-00
Project: Federal Creosote Site, 11-27-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
1186307	1127-08	Clearance; Final Rear Of Kitchen(204)	1235 L	4.46	<0.0022
1186308	1127-09	Clearance; Final Left Side Of Kitchen (204)	1235 L	2.55	<0.0022
1186309	1127-10	Clearance; Final Right Side Of Kitchen (204)	1235 L	2.55	<0.0022
1186310	1127-11	Field Blank	0 L	1.27	N/A
1186311	1127-12	Field Blank	0 L	1.27	N/A

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm2.

Analysis Performed By: Vane G. Smith II AIHA-AAR 4719

Approved By: Frank Ehrenfeld

Frank E. Ehrenfeld, III
Laboratory Director

Date:

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CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/30/2000
Date Received: 11-29-00
Project: Federal Creosote Site, 11-28-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
1186754	1128-01	Outside Work Area Clean Room Decon In 210	2195 L	11.50	0.0020
1186755	1128-02	Outside Work Area In Living Rm Of 210	2195 L	7.01	0.0012
1186756	1128-03	Outside Work Area AFD Exhaust	573 L	2.55	<0.0047
1186757	1128-04	Inside Work Area West Side Of WA	460 L	379.00	0.3200
1186758	1128-05	Personal Mario Penaherrera Floor Demo/Removal	472 L	Void	Void
1186759	1128-06	Personal Mario Penaherrera Transite Removal	228 L	16.60	0.0280
1186760	1128-07	Outside Work Area NW Corner Of Lot 216	343 L	2.55	<0.0079

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
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Limit of detection based upon 7 f/mm2.

Analysis Performed By: [signature] Relon, AIHA-AAR 4879

Approved By: [signature]

501896

Frank E. Ehrenfeld, III
Laboratory Director

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CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/30/2000
Date Received: 11-29-00
Project: Federal Creosote Site, 11-28-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
1186761	1128-08	Outside Work Area NE Corner Of Lot 216	345 L	2.55	<0.0078
1186762	1128-09	Clearance Left Side Of Kitchen 210	1178 L	2.55	<0.0023
1186763	1128-10	Clearance Center; Kitchen 210	1178 L	2.55	<0.0023
1186764	1128-11	Clearance Right Side Of Kitchen 210	1169 L	2.55	<0.0023
1186765	1128-12	Field Blank	0 L	1.27	NA
1186766	1128-13	Field Blank	0 L	1.27	NA

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm2.

501897

Analysis Performed By: Benjamin Reich, AIHA-AAR 4879

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

Date: NOV 3 0 2000

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 0805
Telephone: 856-231-9449 Fax: 856-231-981

CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/30/2000
Date Received: 11-30-00
Project: Federal Creosote Site, 11-29-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
1188357	1129-01	Outside Work Area NW Corner Of Lot 216 On Fence	983 L	1.27	<0.0027
1188358	1129-02	Outside Work Area NE Corner Of Lot 216 On Fence	980 L	1.91	<0.0028
1188359	1129-03	Outside Work Area SE Corner Of House On Porch	782 L	3.82	<0.0034
1188360	1129-04	Personal Charles Booker Transite Removal	760 L	9.55	0.0048
1188361	1129-05	Field Blank	0 L	1.27	NA
1188362	1129-06	Field Blank	0 L	1.27	NA

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm2.

Analysis Performed By: Vane G. Smith Jr. Vane G. Smith AIHA-AAR 4719

Approved By: Frank Ehrenfeld

Date: NOV 30 2000

501898

Frank E. Ehrenfeld, III
Laboratory Director

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/30/2000
Date Received: 11-30-00
Project: Federal Creosote Site, 11-30-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location	Volume	Density Fibers/mm2	Concentration Fibers/cc
1188363	1130-01	Outside Work Area Clean Room Decon At 216	633 L	31.80	0.0190
1188364	1130-02	Outside Work Area Living Rm; Adj To Kitchen Work Area	635 L	2.55	<0.0042
1188365	1130-03	Outside Work Area AFD Exhaust	655 L	Void	Void
1188366	1130-04	Inside Work Area Center	490 L	1.27	<0.0055
1188367	1130-05	Personal Rogers Lee Floor Sheeting Demo	454 L	Void	Void

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

501899

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm2.

Analysis Performed By: Vane G. Smith
Vane G. Smith, III, AIHA-AAR 4719

Approved By: Frank Ehrenfeld

Frank E. Ehrenfeld, III
Laboratory Director

Date:

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Cape Environmental Management
486 Thomas Jones Way, Ste. 260
Exton PA 19341-2564

Report Date: 11/30/2000
Date Received: 11-30-00
Project: Federal Creosote Site,11-30-00
Project No.: 00310.001.100

PCM AIR SAMPLE ANALYSIS SUMMARY

Lab No.	Client #	Description / Location		Volume	Density Fibers/mm2	Concentration Fibers/cc
1188368	1130-06	Clearance Bottom Of Steps	In Basement;Bldg 216	1235 L	1.27	<0.0022
1188369	1130-07	Clearance Hallway At	Basement Steps	1245 L	4.46	<0.0022
1188370	1130-08	Clearance Kitchen Next To	Water Feeds	1245 L	2.55	<0.0022
1188371	1130-09	Field Blank		0 L	1.27	NA
1188372	1130-10	Field Blank		0 L	1.27	NA

Member AIHA Analysts Registry **AIHA Lab No. 444** **NIOSH-PAT NO. 07008**

Analysis Method: Phase Contrast Microscopy - NIOSH 7400 Method Revision #3, Issue 2, August 15, 1994

501900

Comments: A VOID concentration means that the sample has been overloaded with particulate matter and could not be reliably analyzed.
Method requires submittal of blanks.
IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client.
Limit of detection based upon 7 f/mm2.

Analysis Performed By:- Vans G. Smith
Vans G. Smith, II, AIHA-AAR 4719

Approved By: Frank Ehrenfeld

Frank E. Ehrenfeld, III
Laboratory Director

Date: NOV 2 2000

CAPE
ENVIRONMENTAL MANAGEMENT I N C

Client Name: EPA Project Manager: Kurt Gates

Proj. Name / Number: Federal Creosote / 00310.001.100

Date collected: 10/30/2000 Shift: 1

Work area: Bldgs 127 + 172

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

3/7

24 HOUR T.A

SAMPLE ID LAB SAMPLE #	TYPE	DESCRIPTION / LOCATION / SS# PUMP	FLOW (L/m) PRE / POST	TIME ON / OFF	TOTAL (min)	VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	FIBER DENSITY *(f/mm2)	AVG BLANK (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
127 - 01		BASEMENT Recreation Room	8.3	950	123	1020.9		2/100	2.55			
1176102	BG		8.3	1153								<0.0026
127 - 02		LANDING AT Bottom of Steps	8.5	953	122	1037		2/100	2.55			
1176103	BG		8.5	1155								<0.0026
127 - 03		Garage area when Clean	8.5	956	122	1037		2/100	2.55			
1176104	BG	Room will be	8.5	1158								<0.0026
127 - 04		Out back of Garage	8.5	10.00	122	1037		2/100	2.55			
1176105	BG	- Down wind.	8.5	1202								<0.0026
172 - 05		IN Kitchen - over	8.5	1212	128	1088		2/100	2.55			
1176106	BG	Sink	8.5	1420								<0.0025
172 - 06		BACK of House - Center	8.5	1215	127	1079.5		2/100	2.55			
1176107	BG	- Down wind	8.5	1222								<0.0025
172 - 07		Living Room - Future CLEAN	8.5	1217	128	1088		2/100	2.55			
1176108	BG	Room Location	8.5	1425								<0.0025
172 - 08		Front of House AT	8.3	1220	128	1062.4		2/100	2.55			
1176109	BG	Entrance door.	8.3	1428								<0.0025

COLLECTION:	ANALYSIS:		TURNAROUND TIME REQUESTED:			
COLLECTED BY:	ANALYZED BY:	1559	RELINQUISHED BY:		RECEIVED BY:	
ROTOMETER NO:	DATE ANALYZED: 11/1/00	10/31	DATE:	TIME:	DATE: 11/1/2000	TIME:
FILTER LOT NO:	MICROSCOPE #:	1440	RELINQUISHED BY:		RECEIVED BY:	
CASSETTES: 0.8 0.45 MCEF			DATE:	TIME:	DATE:	TIME:

SAMPLE TYPE LEGEND:

BG BACKGROUND AMB AMBIENT EX EXCURSION
FB FIELD BLANK IWA INSIDE WORK AREA CL CLEARANCE

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

Please fax results to: 908-243-0120 Phil Z.

5011901

CAMP ENVIRONMENTAL MANAGEMENT I N C

Client Name: EPA Project Manag: Kurt Gates

Proj. Name / Number: Federal Creosote 100310.001.100

Date collected: 10/30/2000 Shift: 1

Work area: Bldgs 127 & 172

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

24 Hour T.A

SAMPLE ID		DESCRIPTION / LOCATION / SS#		FLOW (L/m)	TIME		VOLUME	FIBERS	FIELDS	FIBER	AVG	DETECTION	MEASURED
				PRE	ON	TOTAL	(L)	COUNTED	COUNTED	DENSITY	BLANK	LIMIT	CONCENTR
LAB SAMPLE #	TYPE		PUMP	POST	OFF	(min)				(f/mm2)	(f/mm2)	(f/cc)	(f/cc)
102-09				—	—								
117611	FB	Field Blank		—	—	—	—		1/100	1.27			
172-10				—	—								
117611	FB	Field Blank		—	—	—	—		1/100	1.27			

COLLECTION:	ANALYSIS:	TURNAROUND TIME REQUESTED:	24 Hour T.A.
COLLECTED BY:	ANALYZED BY:	RELINQUISHED BY:	RECEIVED BY:
ROTOMETER NO: 2	DATE ANALYZED:	DATE: TIME:	DATE: TIME:
FILTER LOT NO:	MICROSCOPE #:	RELINQUISHED BY:	RECEIVED BY:
CASSETTES: 0.8 0.45 MCEF		DATE: TIME:	DATE: TIME:

SAMPLE TYPE LEGEND:

BG BACKGROUND
FB FIELD BLANK
P PERSONAL
AMB AMBIENT
IWA INSIDE WORK AREA
OWA OUTSIDE WORK AREA
EX EXCURSION
CL CLEARANCE

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

Please fax results to: 908-243-0120

501902

CAPE
ENVIRONMENTAL MANAGEMENT INC

Client Name: Corps of Engineers Project Manager: Kurt Gates

Proj. Name / Number: Federal Creosote 100310.001.100

Date collected: 11-1-2000 Shift: 1

Work area: Backgrounds 180 + 186

RUSH

AIR SAMPLE LOG
CHAIN OF CUSTODY SUMMARY REPORT

43/9

RUSH 1 of 2

SAMPLE ID / LAB SAMPLE #	TYPE	DESCRIPTION / LOCATION / SS#	PUMP	FLOW (L/m) PRE / POST	TIME ON / OFF	TOTAL (min)	VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	FIBER DENSITY (f/mm2)	AVG BLANK (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
180 - 01		BLDG 180 Hall		8.5	832	132	1122		2/100	2.55			<0.0024
1177370	BG			8.5	1050								
180 - 02		BLDG 180 Kitchen		8.3	831	133	1103.9		6/100	7.64			0.0027
1177371	BG			8.3	1052								
180 - 03		BLDG 180 - OUTSIDE		8.5	841	133	1130.5		3.5/100	4.46			<0.0024
1177372	BG	Kitchen Window		8.5	1054								
180 - 09		BLDG 180 Downwind		8.5	843	132	1122		2/100	2.55			<0.0024
1177373	BG	Back Corner		8.5	1055								
186 - 12		BLDG 186 - Kitchen		8.3	1107	123	1020.9		2/100	2.55			<0.0026
1177374	BG			8.3	1310								
186 - 13		BLDG 186 - Family Room		8.5	1109	123	1045.5		3/100	3.82			<0.0026
1177375	BG	Future Decon Location		8.5	1312								
186 - 14		BLDG 186 - Kitchen Window		8.5	1111	122	1037		2/100	2.55			<0.0026
1177376	BG	- Future AFD Location		8.5	1313								
186 - 15		BLDG 186 - Side Window		8.5	1113	122	1037		3/100	3.82			<0.0026
1177377	BG			8.5	1315								

COLLECTION:	ANALYSIS:	TURNAROUND TIME REQUESTED:	RUSH
COLLECTED BY:	ANALYZED BY:	RELINQUISHED BY:	RECEIVED BY:
ROTOMETER NO:	DATE ANALYZED:	DATE: TIME:	DATE: 11/2/00 TIME:
FILTER LOT NO:	MICROSCOPE #:	RELINQUISHED BY:	RECEIVED BY:
CASSETTES: 0.8 0.45 MCEF		DATE: TIME:	DATE: TIME:

501903

SAMPLE TYPE LEGEND:

BG BACKGROUND
FB FIELD BLANK
P PERSONAL
AMB AMBIENT
IWA INSIDE WORK AREA
OWA OUTSIDE WORK AREA
EX EXCURSION
CL CLEARANCE

NC @ 11/8/00

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

(408) 243-0120
(615) 350-8409

11/2/00

Rush

CAPE ENVIRONMENTAL MANAGEMENT INC

Client Name: Corps of Engineers Project Manager: Kurt Gilles

Proj. Name / Number: Federal Courts 1 003/1.001.100

Date collected: 11/1/2000 Shift: 1

Work area: BLDG 127

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

RUSH P283

SAMPLE ID: LAB SAMPLE #	TYPE	DESCRIPTION / LOCATION / SS#	PUMP	FLOW (L/m) PRE / POST	TIME ON / OFF	TOTAL (min)	VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	FIBER DENSITY (f/mm2)	AVG BLANK (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
127-05		AT Front Door		3.5	1120	240	910		2/100	2.55			<0.0030
1177378	OWA	Critical Barrier		3.5	1540								
127-04 1177377	AFD	EXHAUST		3.5	1122	260	910		2/100	2.55			<0.0030
labelled 0486-06				3.5	1542								
127-07		CLEAN Room		3.5	1125	259	906.5		3/100	3.82			<0.0030
1177380	OWA			3.5	1544								
127-08		INSIDE WORK AREA		3.5	1136	249	871.5		73/100	93.0			0.041
1177381	IWA			3.5	1545								
127-09		Rogers Lee [redacted]		1.0	1128	44	44		135/100	17.2			0.15
1177382	EXC	[redacted] Removal		1.0	1212								
127-10		Rogers LEE		2.0	1213	38	76		14.5/100	18.5			0.094
1177383	P	SAME AS 09		2.0	1251								
127-11		Rogers LEE		2.0	1355	128	256		21/100	26.8			0.040
1177384	P	Same As 09		2.0	1603								
127-16	FB	Field Blank 1177385		—	—	—	—		1/100	1.27			—
127-17	FB	Field Blank 1177386		—	—	—	—		1/100	1.27			—

COLLECTION:	ANALYSIS:
COLLECTED BY:	ANALYZED BY:
ROTOMETER NO:	DATE ANALYZED:
FILTER LOT NO:	MICROSCOPE #:
CASSETTES: 0.8 0.45 MCEF	

TURNAROUND TIME REQUESTED:		Rush	
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE: 11/3/00	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:

SAMPLE TYPE LEGEND:

BG BACKGROUND AMB AMBIENT EX EXCURSION

FB FIELD BLANK IWA INSIDE WORK AREA CL CLEARANCE

NKC @ 11/8/00

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

806705

CAPE ENVIRONMENTAL MANAGEMENT I N C

Client Name: Corps of Engineers Project Manager: Kurt Cortis 11-3-00

Proj. Name / Number: FEDERAL CREOSOTE I 00310.001.101

Date collected: 11-2-2000 Shift: 1

Work area: BLDG 127

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

24 Hour T.A.

342/7

P1062/

SAMPLE ID LAB SAMPLE #	TYPE	DESCRIPTION / LOCATION / SS# PUMP	FLOW (L/m) PRE / POST	TIME ON / OFF	TOTAL (min)	VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	FIBER DENSITY (f/mm2)	AVG BLANK (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
1102 - 01		CLEAN ROOM 117502	3.5	840	167	554.5		2/100	2.55			
	OWA		3.5	1127								<0.0046
1102 - 02		ON STEPS AT CRITICAL	3.5	842	168	558		2/100	2.55			
	OWA	BARRIER 117503	3.5	1130								<0.0046
1102 - 03		AFD EXHAUST	3.5	844	169	591.5		2/100	2.55			
	OWA	117504	3.5	1133								<0.0046
1102 - 04		WORK AREA NORTH END	3.5	845	159	556.5		7/100	8.92			0.0062
	IWA	117505	3.5	1124								
1102 - 05		EVA FLETCHER [redacted]	1.0	852	41	41		3/100	3.82			<0.066
	EX	FINE CLEANING 117506	1.0	933								
1102 - 06		EVA FLETCHER	2.0	934	111	222		3/100	3.82			<0.012
	P	SAME AS 117507	2.0	1125								
1102 - 07		CLEAN ROOM	3.5	1330	153	535.5		2/100	2.55			<0.0050
		117508	3.5	1603								
1102 - 08		DOWNWIND SE CORNER	3.5	1333	152	532		2/100	2.55			<0.0057
		OF S16 127 117509	3.5	1605								

COLLECTION:	ANALYSIS:	TURNAROUND TIME REQUESTED:	
COLLECTED BY: [signature]	ANALYZED BY: [signature]	RELINQUISHED BY:	RECEIVED BY:
ROTOMETER NO: L0-04	DATE ANALYZED: 11/3/00	DATE: TIME:	DATE: TIME:
FILTER LOT NO:	MICROSCOPE #:	RELINQUISHED BY:	RECEIVED BY:
CASSETTES: 0.8 0.45 MCEF		DATE: TIME:	DATE: TIME:

501905

SAMPLE TYPE LEGEND:

BG BACKGROUND
FB FIELD BLANK
P PERSONAL
AMB AMBIENT
IWA INSIDE WORK AREA
OWA OUTSIDE WORK AREA
EX EXCURSION
CL CLEARANCE

Logs 11/2 2100

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

Fax results to (610) 594 8608 ALP

19081742-0120 Dr. A...

CAPE ENVIRONMENTAL MANAGEMENT I N C

Client Name: Corps of Engineers Project Manager: Kurt Bates

Proj. Name / Number: FEDERAL Courthouse Site/ 00310.001.100

Date collected: 11/2/2000 Shift: 1

Work area: Exterior Transite Removal — 1st

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

24 Hr T.A.

SAMPLE ID LAB SAMPLE #	TYPE	DESCRIPTION / LOCATION / SS#	PUMP	FLOW (L/m) PRE	FLOW (L/m) POST	TIME ON	TIME OFF	TOTAL (min)	VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	FIBER DENSITY (f/mm2)	AVG BLANK (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
1102-09		INSIDE BARRIER TAPE		3.5		1335		180	630		2/100	2.55			
	IWA	during Removal	17600	3.5		1635									<0.0043
1102-10		Charles Booker		1.0		1344		33	33		2/100	2.55			
	EX	Transite Siding Removal	17601	1.0		1417									<0.082
1102-11		Charles Booker		2.0		1418		110	220		2/100	2.55			
		Transite Siding Removal	17602	2.0		1608									<0.012
1102-12		Final - inside family		8.5		1422		143	1215.5		2/100	2.55			
	FC	Room	17603	8.5		1645									<0.0022
1102-13		Final - inside Kitchen		8.5		1423		143	1215.5		2/100	2.55			
	FC	Area	17604	8.5		1646									<0.0022
1102-14		Final - inside Bed		8.5		1425		142	1207		2/100	2.55			
	FC	Room Area	17605	8.5		1647									<0.0022
1102-15		FIELD BLANK	17606	—		—		—	—		1/100	1.27	(B)		
1102-16		FIELD BLANK	17607	—		—		—	—		1/100	1.27			

USH

COLLECTION:	ANALYSIS:	TURNAROUND TIME REQUESTED:	
COLLECTED BY:	ANALYZED BY:	RELINQUISHED BY:	RECEIVED BY:
ROTOMETER NO:	DATE ANALYZED:	DATE: TIME:	DATE: TIME:
FILTER LOT NO:	MICROSCOPE #:	RELINQUISHED BY:	RECEIVED BY:
CASSETTES: 0.8 / 0.45 MCEF		DATE: TIME:	DATE: TIME:

SAMPLE TYPE LEGEND:

BG BACKGROUND
FB FIELD BLANK
P PERSONAL
AMB AMBIENT
IWA INSIDE WORK AREA
OWA OUTSIDE WORK AREA
EX EXCURSION
CL CLEARANCE

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

Fax Results to (610) 524 8209 Pat Cape
(908) 243 0120 Pat Cape

RUN 1

343/9

CAPE ENVIRONMENTAL MANAGEMENT INC

Client Name: Corps of Engineers Project Manager: Kurt Gates

Proj. Name / Number: FEDERAL Creosote Site / 00310.001.160

Date collected: 11/6/2000 Shift: 1

Work area: BLDG 127

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

RUSH

SAMPLE ID LAB SAMPLE #	TYPE	DESCRIPTION / LOCATION / SS# PUMP	FLOW (L/m) PRE / POST	TIME ON / OFF	TOTAL (min)	VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	FIBER DENSITY (f/mm2)	AVG BLANK (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
1106-01	OWA	CLEAN ROOM - DECON 1178830	3.0 / 3.0	748 / 1430	402	1206		2/100	2.55			<0.0022
1106-02	OWA	S.E. CORNER of Lot - Downwind 1178831	2.5 / 2.5	751 / 1433	402	1005		2/100	2.55			<0.0027
1106-03	OWA	N.E. CORNER of Lot - Downwind 1178832	2.5 / 2.5	754 / 1437	403	1007.5		2/100	2.55			<0.0027
1106-09	IWA	N.W. CORNER of Work Area - 1178833	2.5 / 2.5	757 / 1440	402	1005		2/100	2.55			<0.0027
1106-05	EX	ROGERS LEE [redacted] TRANS. & REMOVAL 1178834	1.0 / 1.0	8:18 / 851	43	43		2/100	2.55			<0.063
1106-06	P	ROGERS LEE [redacted] TRANS. & REMOVAL 1178835	2.0 / 2.0	852 / 1249	237	474		3/100	3.82			<0.0057
1106-07	P	[redacted] TRANSITE REMOVAL 1178836	2.0 / 2.0	1250 / 1433	103	206		26/100	33.1			0.062
1106-08	FB	FIELD BLANK 1178837	—	—	—	—		0/100	1.27			
1106-04	FB	FIELD BLANK 1178838	—	—	—	—		0/100	1.27			

COLLECTION:		ANALYSIS:		TURNAROUND TIME REQUESTED:		RUSH	
COLLECTED BY:	[signature]	ANALYZED BY:	[signature]	RELINQUISHED BY:	[signature]	RECEIVED BY:	[signature]
ROTOMETER NO:	LE #1	DATE ANALYZED:	11/12/00	DATE: 11/6/2000	TIME: 1630	DATE: 11/6/00	TIME: 5:09 PM
FILTER LOT NO:		MICROSCOPE #:		RELINQUISHED BY:		RECEIVED BY:	
CASSETTES:	0.8 0.45 MCEF			DATE:	TIME:	DATE:	TIME:

SAMPLE TYPE LEGEND:

BG BACKGROUND AMB AMBIENT EX EXCURSION CL CLEARANCE

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

NO @ 11/9/00

Please fax to (614) 594-8609

501907

CAPE
ENVIRONMENTAL MANAGEMENT

Client Name: Corps of Engineers Project Manager: Kurt Cotton

Proj. Name / Number: Federal Creosote SI 00310.001.100

Date collected: 11-2-2000 Shift: 1

Work area: Bldg 122 - Exterior Transite Removal

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

343/9

RUSH - RUSH

SAMPLE ID / LAB SAMPLE #	TYPE	DESCRIPTION / LOCATION / SS#	PUMP	FLOW (L/m) PRE / POST	TIME ON / OFF	TOTAL (min)	VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	FIBER DENSITY (f/mm2)	AVG BLANK (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
1107-01	OWA	CLEAN Room - Decon	1179836	3.0 / 3.0	830 / 1418	348	1044		2/100	2.55			<0.0026
1107-02	OWA	North END of Compound	1179837	3.0 / 3.0	832 / 1420	348	1044		2/100	2.55			<0.0026
1107-03	OWA	North East End of Compound	1179838	2.5 / 2.5	834 / 1422	348	870		2/100	2.55			<0.0031
1107-04	IWA	INSIDE WORK AREA	1179839	2.5 / 2.5	838 / 1425	347	867.5		2/100	2.55			<0.0031
1107-05	EW	Charles Booker [redacted] Transite Removal	1179840	1.0 / 1.0	753 / 827	34	34		2/100	2.55			<0.079
1107-06	P	Charles Booker [redacted] Transite Removal	1179841	2.0 / 1.0	828 / 1127	179	358		115/100	14.7			0.016
1107-07	P	Charles Booker [redacted] Transite Removal	1179842	2.0 / 2.0	1239 / 1415	96	192		245/100	31.2			0.063
1107-08	BG	BLDG 192 Basement Kitchen	1179843	8.5 / 8.5	12:05 / 1430	145	1232.5		2/100	2.55			<0.0022

COLLECTION:	ANALYSIS:	TURNAROUND TIME REQUESTED:	
COLLECTED BY: [signature]	ANALYZED BY: [signature]	RELINQUISHED BY:	RECEIVED BY: [signature]
ROTOMETER NO: [illegible]	DATE ANALYZED: 11/8/00	DATE: TIME:	DATE: 11/8/00 TIME:
FILTER LOT NO:	MICROSCOPE #:	RELINQUISHED BY:	RECEIVED BY:
CASSETTES: 0.8 0.45 MCEF		DATE: TIME:	DATE: TIME:

ND @ 11/13/00

SAMPLE TYPE LEGEND:

BG BACKGROUND
FB FIELD BLANK
AMB AMBIENT
IWA INSIDE WORK AREA
EX EXCURSION
CL CLEARANCE

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

Please Rush to: (615) 594 8209

501908

1110

CAPE ENVIRONMENTAL MANAGEMENT INC

Client Name: Corps of Engineers Project Manager: Kurt Gates

Proj. Name / Number: Federal Creosote Site 100310.001.100

Date collected: 11/7/2000 Shift: 1

Work area: Background Bldgs 192 + 204

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

RUSH –

SAMPLE ID (LAB SAMPLE #)	TYPE	DESCRIPTION / LOCATION / SS#	PUMP	FLOW (L/m) PRE / POST	TIME ON / OFF	TOTAL (min)	VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	FIBER DENSITY (f/mm2)	AVG BLANK (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
1107-09		Bldg 192 – Kitchen South End	1179844	8.5 / 8.5	1206 / 1432	146	1241		4/100	5.10			<0.0022
1107-10		Bldg 192 – Kitchen out Window	1179845	8.5 / 8.5	1207 / 1433	146	1241		9/100	11.5			0.0036
1107-11		Bldg 192 – inside Living Room where [illegible]	1179846	8.5 / 8.5	1208 / 1434	146	1241		2/100	2.55			<0.0022
1107-12		Bldg 204 – Kitchen Center –	1179847	8.5 / 8.5	1217 / 1439	142	1207		4.5/100	5.73			<0.0022
1107-13		Bldg 204 – Basement Left of Steps.	1179848	8.5 / 8.5	1219 / 1442	143	1215.5		3/100	3.82			<0.0022
1107-14		Bldg 204 – Living Room – future Demo Site	1179849	8.5 / 8.5	1221 / 1443	142	1207		2/100	2.55			<0.0022
1107-15		Bldg 204 – outside Kitchen Window	1179850	8.5 / 8.5	1226 / 1448	140	1190		2/100	2.55			<0.0023
1107-16	FB	Field Blank	1179851	–		–	–		1/100	1.27			
1107-17	FB	Field Blank	1179852	–	–	–	–		1/100	1.27			

COLLECTION:	ANALYSIS:				
COLLECTED BY: P Beazley	ANALYZED BY:	TURNAROUND TIME REQUESTED:			
ROTOMETER NO: LF C1	DATE ANALYZED:	RELINQUISHED BY:		RECEIVED BY:	
FILTER LOT NO:	MICROSCOPE #:	DATE:	TIME:	DATE:	TIME:
CASSETTES: (0.8) 0.45 MCEF		RELINQUISHED BY:		RECEIVED BY:	
		DATE:	TIME:	DATE:	TIME:

SAMPLE TYPE LEGEND:

BG BACKGROUND · FB FIELD BLANK · AMB AMBIENT · IWA INSIDE WORK AREA · OWA OUTSIDE WORK AREA · EX EXCURSION · CL CLEARANCE

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

(609) 544 8607
(609) 212 5265

CAPE
ENVIRONMENTAL
MANAGEMENT
INC.

RUSH

Client Name: Cross of Engonics Project Manager: Kurt Gates

Proj. Name / Number: Federal Creosote Site I 00310.001.100

Date collected: 11-8-2000 Shift: 1

Work area: Bldgs 172 + 180 - Pump only

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

13/9

RUSH pl 16 2

SAMPLE ID LAB SAMPLE #	TYPE	DESCRIPTION / LOCATION / SS#	PUMP	FLOW (L/m) PRE / POST	TIME ON / OFF	TOTAL (min)	VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	FIBER DENSITY (f/mm2)	AVG BLANK (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
1108-01		Background - in Kitchen		8.5	850								
1100485	BG	Area of Bldg 210		8.5	1111	141	1198.5		2/100	2.55			<0.0022
1108-02		Background - Living room		8.5	852								
1100486	BG	where dosm will be in 210		8.5	1112	140	1190		2/100	2.55			<0.0023
1108-03		Background - in Hall		8.5	854								
1100487	BG	way of Bldg 210		8.5	1114	140	1190		2/100	2.55			<0.0023
1108-04		Background - outside		8.5	855								
1100488	BG	Kitchen window of Bldg 210.		8.5	1115	140	1190		2/100	2.55			<0.0023
1108-05		EVA FLETCHER [redacted]		2.0	938								
1100489	EX	Prep Floor Tile Area 172		2.0	1010	32	64		4/100	5.10			<0.042
1108-06		EVA FLETCHER [redacted]		2.0	1012								
1100490	P	Prep Floor Tile Area 172		2.0	1140	88	176		2.5/100	3.18			<0.015
1108-07		EVA Fletcher [redacted]		2.0	1245								
1100491	P	Prep Mosaic Tile Area 180		2.0	1516	151	302		10/100	12.7			0.016
1108-08		Background - Bldg 216		8.5	1125								
1100492	BG	Kitchen		8.5	1344	141	1198.5	N	2/100	2.55			<0.0022

COLLECTION:	ANALYSIS:	TURNAROUND TIME REQUESTED:	
COLLECTED BY: D Bagley	ANALYZED BY:	RELINQUISHED BY:	RECEIVED BY:
ROTOMETER NO: LF Cg	DATE ANALYZED: 11/9/00	DATE: TIME:	DATE: 11/9/00 TIME:
FILTER LOT NO:	MICROSCOPE #:	RELINQUISHED BY:	RECEIVED BY:
CASSETTES: (0.8) 0.45 MCEF		DATE: TIME:	DATE: TIME:

NA @ 11/13/00

SAMPLE TYPE LEGEND:

BG BACKGROUND
FB FIELD BLANK
AMB AMBIENT
IWA INSIDE WORK AREA
OWA OUTSIDE WORK AREA
EX EXCURSION
CL CLEARANCE

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

please fax to (610) 594 5605
(908) 243 0209

11/9/00

501910

CAPE ENVIRONMENTAL MANAGEMENT I N C

Client Name: Corps of Engineers Project Manager: Kurt Gates

Proj. Name / Number: FEDERAL GEOSOTE Site / 00310.001.100

Date collected: 11-8-2000 Shift:

Work area: Bldgs 172+180 Rms / Backgrounds

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

Rush p 2 of 2

SAMPLE ID LAB SAMPLE #	TYPE	DESCRIPTION / LOCATION / SS#	PUMP	FLOW (L/m) PRE / POST	TIME ON / OFF	TOTAL (min)	VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	FIBER DENSITY (f/mm2)	AVG BLANK (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
1108-09		Background - Bldg 216		8.5	1124	141	1198.5		2/100	2.55			
1100493	BG	Hall next to Kitchen		8.5	1345								<0.0022
1108-10		Background - Living Room		8.5	1126	140	1190		2/100	2.55			
1100494	BG	where decon will be.		8.5	1346								<0.0023
1108-11		Background - out Kitchen		8.5	1128	139	1181.5		2/100	2.55			
1100495	BG	Windows		8.5	1347								<0.0023
1108-12				—	—				1/100	1.27			
1100496	FB	Field Blank		—	—	—	—						
1108-13				—	—				1/100	1.27			
1100497	FB	Field Blank		—	—	—	—						

COLLECTION:	ANALYSIS:
COLLECTED BY: [illegible]	ANALYZED BY:
ROTOMETER NO:	DATE ANALYZED:
FILTER LOT NO:	MICROSCOPE #:
CASSETTES: 0.8 0.45 MCEF	

TURNAROUND TIME REQUESTED:		Rush	
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:

SAMPLE TYPE LEGEND:

BG BACKGROUND
FB FIELD BLANK
P PERSONAL
AMB AMBIENT
IWA INSIDE WORK AREA
OWA OUTSIDE WORK AREA
EX EXCURSION
CL CLEARANCE

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

Please fax to (610) 594-8609
908 243 0209

501911

343/9

Client Name: Corps of Engineers Project Manager: Kurt Gates

Proj. Name / Number: Federal Creosote Site / 00340.001.100

Date collected: 11-9-2000 Shift: 1

Work area: Bldg 172 interior floor tile and Exterior Transit

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

Rush

SAMPLE ID	TYPE	DESCRIPTION / LOCATION / SS#	PUMP	FLOW (L/m) PRE	FLOW (L/m) POST	TIME ON	TIME OFF	TOTAL (min)	VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	FIBER DENSITY (f/mm2)	AVG BLANK (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
1109-01	OWA	Clean Room at Floor Tile Area 172		5.0	5.0	810	1120	190	950		1/100	7.64			0.0031
1109-02	OWA	Outside Clean Room in Living Room 172		2.5	2.5	812	1123	191	477.5		8/100	10.2			0.0082
1109-03	OWA	AFD Exhaust - Floor Tile Area		2.5	2.5	815	1125	190	475		7/100	2.55			<0.0057
1109-04	IWA	Work Area - Floor Tile 172		2.5	2.5	822	1127	185	462.5		2/100	2.55			<0.0056
1109-05	EX	Charles Booker [redacted] Transit Removal		2.0	2.0	827	858	31	62		3/100	3.82			<0.044
1109-06	P	Charles Booker Same as 05		2.0	2.0	859	1142	163	326		109/100	139.			0.16
1109-07	P	Charles Booker Same as 05		2.0	2.0	1305	1513	124	248		2/100	2.55			<0.011
1109-08		Work Area - Outside Front		2.5	2.5	9:10	1516	366	915		4.5/100	5.73			<0.0029

COLLECTION:		ANALYSIS:	
COLLECTED BY:		ANALYZED BY:	
ROTOMETER NO:		DATE ANALYZED:	11/10/00
FILTER LOT NO:		MICROSCOPE #:	
CASSETTES:	8 0.8 0:45 MCEF		

TURNAROUND TIME REQUESTED:		Rush	
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:

501912

SAMPLE TYPE LEGEND:

BG BACKGROUND
FB FIELD BLANK
P PERSONAL
AMB AMBIENT
IWA INSIDE WORK AREA
OWA OUTSIDE WORK AREA
EX EXCURSION
CL CLEARANCE

NAD @ 11/16/00

NOV 10

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

Please fax to (610) 594-8609
(908) 243-0205

CAPE ENVIRONMENTAL MANAGEMENT INC

Client Name: Corps of Engineers Project Manager: Kurt Gates

Proj. Name / Number: FEDERAL Creosote Site 100310.001.100

Date collected: 11-9-2000 Shift: 1

Work area: Bldg 172 interior

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

~~ATH~~ RUSH

SAMPLE ID LAB SAMPLE #	TYPE	DESCRIPTION / LOCATION / SS#	PUMP	FLOW (Lm) PRE / POST	TIME ON / OFF	TOTAL (min)	VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	FIBER DENSITY (f/mm2)	AVG BLANK (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
1109-09		OUTSIDE WORK Area at C+D		2.5	920	364	910		3/100	3.82			<0.0030
118106		Dumpster - Down wind		2.5	1524								
1109-10		Work Area - Back of		2.5	1315	125	312.5		2/100	2.55			<0.0086
118066	DUP	House - West Side at fence		2.5	1520								
1109-11				—	—	—	—		1/100	1.27			✓
118107	FB	FIELD BLANK		—	—								
1109-12				—	—	—	—		1/100	1.27			✓
118108	FB	FIELD BLANK		—	—								

COLLECTION:	ANALYSIS:	TURNAROUND TIME REQUESTED:	
COLLECTED BY: [signature]	ANALYZED BY:	RELINQUISHED BY: [signature]	RECEIVED BY:
ROTOMETER NO: CF	DATE ANALYZED:	DATE: TIME:	DATE: TIME:
FILTER LOT NO:	MICROSCOPE #:	RELINQUISHED BY:	RECEIVED BY:
CASSETTES: (0.8) 0.45 MCEF		DATE: TIME:	DATE: TIME:

501913

SAMPLE TYPE LEGEND:

BG BACKGROUND
FB FIELD BLANK
P PERSONAL
AMB AMBIENT
IWA INSIDE WORK AREA
OWA OUTSIDE WORK AREA
EX EXCURSION
CL CLEARANCE

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

343/1

CAPE
ENVIRONMENTAL
MANAGEMENT
INC.

Client Name: Corps of Engineers Project Manager: Kurt Gates

Proj. Name / Number: FEDERAL Gravock-S.61 00310.001.100

Date collected: 11-10-2000 Shift: 1

Work area: Bldg 180 Exterior Transite

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

24 Hour T.A.

SAMPLE ID		DESCRIPTION / LOCATION / SS#		FLOW (L/m)	TIME		VOLUME	FIBERS	FIELDS	FIBER	AVG	DETECTION	MEASURED
LAB SAMPLE #	TYPE		PUMP	PRE / POST	ON / OFF	TOTAL (min)	(L)	COUNTED	COUNTED	DENSITY (f/mm2)	BLANK (f/mm2)	LIMIT (f/cc)	CONCENTR (f/cc)
1110-01		Clean Room - decon		3.0 / 3.0	819 / 1503	404	1212	1	100	1.27	1.27	0.0022	<0.0022
1110-02		NE Corner of 180 - Down wind		3.0 / 3.0	821 / 1504	403	1209	1	100	1.27	1.27	0.0022	<0.0022
1110-03		NWest Corner of 180 - Down wind		3.0 / 3.0	824 / 1506	402	1206	3.5	100	4.46	1.27	0.0022	<0.0022
1110-04		Work Area - NW Corner of Bldg 180		3.0 / 3.0	827 / 1508	401	1203	4	100	5.10	1.27	0.0022	<0.0022
1110-05		Field Blank		— / —	— / —	—	—	1	100	1.27			
1110-06		Field Blank		— / —	— / —	—	—	1	100	1.27			

COLLECTION:	ANALYSIS:	TURNAROUND TIME REQUESTED:	24 Hour T.A.
COLLECTED BY: Baggaley	ANALYZED BY: B. Huntington	RELINQUISHED BY: Baggaley	RECEIVED BY:
ROTOMETER NO: 4th CA	DATE ANALYZED: 11-13-00	DATE: TIME:	DATE: TIME:
FILTER LOT NO:	MICROSCOPE #:	RELINQUISHED BY:	RECEIVED BY:
CASSETTES: 0.8 0.45 MCEF		DATE: TIME:	DATE: TIME:

5011914

SAMPLE TYPE LEGEND:

BG BACKGROUND
FB FIELD BLANK
P PERSONAL
AMB AMBIENT
IWA INSIDE WORK AREA
OWA OUTSIDE WORK AREA
EX EXCURSION
CL CLEARANCE

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

NOV - 8 2000

Please fax to (610) 594-8609
(908) 243-0209

11/13

11/16/00

343/7

CAPE ENVIRONMENTAL MANAGEMENT I N C

Client Name: Cities of Carpinteria Project Manager: Kurt Gotsch

Proj. Name / Number: Former Creosote Co. 100310.001.100

Date collected: 11-13-00 Shift: I

Work area: Bldgs 172 interior; 180 Exterior; 186 Exterior.

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

PLOT PLAN 24 HURT A.

SAMPLE ID: LAB SAMPLE #	TYPE	DESCRIPTION / LOCATION / SS# PUMP	FLOW (L/m) PRE / POST	TIME ON / OFF	TOTAL (min)	VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	FIBER DENSITY (f/mm2)	AVG BLANK (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
1113-01	OWA	Living Room - Bldg 172 118 1688	5.0 / 5.0	740 / 1315	335	1675	16	100	20.4			0.0047
1113-02	OWA	Clean Room - Bldg 172. 118 1689	5.0 / 5.0	743 / 1317	334	1670	18	100	22.9			0.0053
1113-03	EXC	Hublio Cruz Street Vinyl Floor Demo 118 1690	2.0 / 2.0	758 / 828	30	60	16	100	20.4			0.13
1113.04		Hublio Cruz Street Vinyl Floor Demo 118 1691	2.0 / 2.0	829 / 1156	207	414	over loaded.					
1113-05		AFD Exhaust Bldg 172 118 1692	2.5 / 2.5	745 / 1446	421	1052.5	6	100	7.64			0.0029
1113-06		NW Corner of 180 Lot. Down wind 118 1693	2.5 / 2.5	805 / 1428	383	957.5	5	100	6.37			<0.0028
1113-07		SW Corner of 180 Lot - Down wind 118 1694	2.5 / 2.5	808 / 1139	211	527.5	6	100	7.64			0.0056
1113-08		S East Corner of 186 Lot - Down wind 118 1695	2.5 / 2.5	1142 / 1430	168	420	3.5	100	4.46			<0.0064

COLLECTION:	ANALYSIS:	TURNAROUND TIME REQUESTED:	
COLLECTED BY:	ANALYZED BY: MM	RELINQUISHED BY:	RECEIVED BY:
ROTOMETER NO: LFCI	DATE ANALYZED: 11/13/00	DATE: TIME:	DATE: 11/13/00 TIME: 5:10 PM
FILTER LOT NO:	MICROSCOPE #:	RELINQUISHED BY:	RECEIVED BY:
CASSETTES: (0.8) 0.45 MCEF		DATE: TIME:	DATE: TIME:

MM @ 11/20/00

SAMPLE TYPE LEGEND:

BG BACKGROUND AMB AMBIENT EX EXCURSION
FB FIELD BLANK IWA INSIDE WORK AREA CL CLEARANCE
P PERSONAL OWA OUTSIDE WORK AREA

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

See Back page

11/13 1740

501915

CAPE ENVIRONMENTAL MANAGEMENT INC

Client Name: Corps of Engineers Project Manager: Kent Foster

Proj. Name / Number: FD Creosote Site / 00310.001.100

Date collected: 11-13-00 Shift:

Work area:

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

SAMPLE ID LAB SAMPLE #	TYPE	DESCRIPTION / LOCATION / SS# PUMP	FLOW (L/m) PRE / POST	TIME ON / OFF	TOTAL (min)	VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	FIBER DENSITY (f/mm2)	AVG BLANK (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
1113-09		Main Penetration	2.5	815	370	925	21	100	26.8			0.011
		Transite Removal 118 696	2.5	1425								
1113-10		Final Left Side	9.0	1315	125	1125	4.5	100	5.73			<0.0024
		of Kitchen 118 697	9.0	1520								
1113-11		Final - Right Side	9.0	1316	125	1125	5	100	6.37	5		<0.0024
		of Kitchen 118 698	9.0	1521								
1113-12		Final - Middle of Kitchen	9.0	1317	125	1125	19	100	24.2			0.0083
		118 699	9.0	1522								
1113-13		Resp Blank 118 1700	—	—	—	—	1	100	1.27	—	—	—
1113-14		Resp Blank 118 1701	—	—	—	—	1	100	1.27	—	—	—

COLLECTION:	ANALYSIS:	TURNAROUND TIME REQUESTED:	
COLLECTED BY:	ANALYZED BY: MM	RELINQUISHED BY:	RECEIVED BY:
ROTOMETER NO: CPEJ	DATE ANALYZED: 11/13/00	DATE: TIME:	DATE: 11/13 TIME: 5:10 pm
FILTER LOT NO:	MICROSCOPE #:	RELINQUISHED BY:	RECEIVED BY:
CASSETTES: 0.8 0.45 MCEF		DATE: TIME:	DATE: TIME:

501916

SAMPLE TYPE LEGEND:

BG BACKGROUND
FB FIELD BLANK
P PERSONAL
AMB AMBIENT
IWA INSIDE WORK AREA
OWA OUTSIDE WORK AREA
EX EXCURSION
CL CLEARANCE

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

Please fax to: (610) 594 8605

908 243 0201 766 0657

CAPE ENVIRONMENTAL MANAGEMENT INC

Client Name: Corps of Engineers Project Manager: Kurt Gates

Proj. Name / Number: Federal Creosote Site 1 00310.001.100

Date collected: 11-14-2000 Shift: 1

Work area: Bldg 180 + 192

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

RUSH

RUSH

SAMPLE ID / LAB SAMPLE #	TYPE	DESCRIPTION / LOCATION / SS#	PUMP	FLOW (L/m) PRE / POST	TIME ON / OFF	TOTAL (min)	VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	FIBER DENSITY (f/mm2)	AVG BLANK (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
1114-01 / 1182435	OWA	Clean Room - decon at 180		5.0 / 5.0	810 / 1400	350	1750		8/100	10.2			0.0029
1114-02 / 1182436	OWA	On Porch outside decon		5.0 / 5.0	811 / 1402	351	1755		2/100	2.55			<0.0015
1114-03 / 1182437	OWA	AFD exhaust at 180		2.5 / 2.5	813 / 1403	350	875		2/100	2.55			<0.0031
1114-04 / 1182438	P	Hublio Cruz Sheet Vinyl floor Demo		2.0 / 2.0	816 / 1119	183	366		VOID overloaded				
1114-05 / 1182439	EX	Hublio Cruz Sheet Vinyl floor Demo		2.0 / 2.0	11:20 / 1150	30	60		80.5/100	103.			0.66
1114-06 / 1182440	IWA	Basement of 192 during pickup of lifting Tiles.		2.0 / 2.0	9:02 / 10:53	111	222		2/100	2.55			<0.012
1114-07 / 1182441	P	Eva Fletcher. Floor Tile Cleanup		2.0 / 2.0	9:05 / 10:54	109	218		3/100	3.82			<0.012
1114-08 / 1182442	CL	Living Room next to AFD		9.5 / 9.5	14:10 / 1613	123	1168.5		5.5/100	7.01			<0.0023

COLLECTION:	ANALYSIS:
COLLECTED BY: [illegible signature]	ANALYZED BY: [illegible signature]
ROTOMETER NO: [illegible]	DATE ANALYZED: 11/15/00
FILTER LOT NO:	MICROSCOPE #:
CASSETTES: (0.8) 0.45 MCEF	

TURNAROUND TIME REQUESTED:	Rush		
RELINQUISHED BY: [illegible signature]		RECEIVED BY: [illegible signature]	
DATE: 11/14/2000	TIME: 6:00 Am	DATE: 11/15/00	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:

[illegible initials] 11/20/00

SAMPLE TYPE LEGEND:

BG BACKGROUND
FB FIELD BLANK
AMB AMBIENT
IWA INSIDE WORK AREA
OWA OUTSIDE WORK AREA
EX EXCURSION
CL CLEARANCE

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

Please Fax to (908) 243-0209

11/15

501917

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Client Name: Corps of Engineers Project Manager: Kurt Bates

Proj. Name / Number: Federal Creosote Site 1 003.0.001.100

Date collected: 11-14-2000 Shift: 1

Work area: Bldg 180 ; 192

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

RUSH

SAMPLE ID		DESCRIPTION / LOCATION / SS#	PUMP	FLOW (L/m)	TIME		VOLUME	FIBERS	FIELDS	FIBER	AVG	DETECTION	MEASURED
				PRE	ON	TOTAL	(L)	COUNTED	COUNTED	DENSITY	BLANK	LIMIT	CONCENTR
LAB SAMPLE #	TYPE			POST	OFF	(min)				(f/mm2)	(f/mm2)	(f/cc)	(f/cc)
1114-09		Hallway - By Bathroom		9.5	1412	123	1168		11.5/100	14.7			0.0048
1182443	CL			9.5	1615								
1114-10		Kitchen by sink		9.5	1415	122	1159		10/100	12.7			0.0042
1182444	CL			9.5	1617								
1114-11		Field Blank		—	—	—	—		1/100	1.27			✓
1182445	FB			—	—								
1114-12		Field Blank		—	—	—	—		1/100	1.27			✓
1182446	FB			—	—								
									1				

COLLECTION:	ANALYSIS:
COLLECTED BY:	ANALYZED BY:
ROTOMETER NO: C1	DATE ANALYZED:
FILTER LOT NO:	MICROSCOPE #:
CASSETTES: (0.8) 0.45 MCEF	

TURNAROUND TIME REQUESTED:		Rush	
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:

SAMPLE TYPE LEGEND:

BG BACKGROUND
FB FIELD BLANK
AMB AMBIENT
IWA INSIDE WORK AREA
EX EXCURSION
CL CLEARANCE

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

Phone Fax to: (605) 243 0209

501918

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Client Name: Corps of Engineers Project Manager: Kurt Gates

Proj. Name / Number: FEDERAL CREOSOTE SITE / 00310.001.100

Date collected: 11-15-2000 Shift: 1

Work area: BLDG 192 + 198 Exterior / 198 Interior Clearance.

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

1343.9

RUSH

RUSH FAXED 11-16-00

SAMPLE ID		DESCRIPTION / LOCATION / SS#	PUMP	FLOW (L/m) PRE	FLOW (L/m) POST	TIME ON	TIME OFF	TOTAL (min)	VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	FIBER DENSITY (f/mm2)	AVG BLANK (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
LAB SAMPLE #	TYPE														
1115-01		NE Corner of 192		2.5	2.5	823	1247	264	660	1	100	1.22			<0.0041
1182779	OWA	Lot													
1115-02		NW Corner of 192		2.5	2.5	825	1250	265	662.5	1	100	1.27			<0.0041
1182780	OWA	Lot													
1115-03		WEST SIDE of BLDG 192		2.0	2.0	833	1428	355	710	2	100	2.5 J			<0.0038
1182781	IWA														
1115-04		Charles Booker		2.0	2.0	840	1427	347	694	12	100	15.3			0.0085
1182782	P	TRANSIT REMOVAL													
1115-05		NE Corner of 198		2.5	2.5	1248	1438	110	275	5	100	6.37			<0.0098
1182783	OWA	Lot													
1115-06		NW Corner of 198		2.5	2.5	1251	1440	109	272.5	2	100	2.5 J			<0.0099
1182784	OWA	Lot													
1115-07		SOUTH END of 192		9.5	9.5	1203	1411	128	1216	12	100	15.3			0.0048
1182785	CL	BASEMENT - FINAL													
1115-08		EAST SIDE of 192		9.5	9.5	1205	1412	127	1206.5	15	100	19.1			0.0061
1182786	CL	BASEMENT - FINAL													

COLLECTION:		ANALYSIS:	
COLLECTED BY:		ANALYZED BY:	
ROTOMETER NO:		DATE ANALYZED:	11/16/2000
FILTER LOT NO:		MICROSCOPE #:	
CASSETTES:	0.8 / 0.45 MCEF		

TURNAROUND TIME REQUESTED:		RUSH	
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE: 11/16/00	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:

W@ 11/28/00

SAMPLE TYPE LEGEND:

BG BACKGROUND
FB FIELD BLANK
P PERSONAL
AMB AMBIENT
IWA INSIDE WORK AREA
OWA OUTSIDE WORK AREA
EX EXCURSION
CL CLEARANCE

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

501919

CAPE ENVIRONMENTAL MANAGEMENT INC

Client Name: Corps of Engineers Project Manager: Kurt Grites

Proj. Name / Number: Federal Creosote Site / 00310.001.100

Date collected: 11-15-2000 Shift: 1

Work area: Bldg 192 - Clearance interior

AIR SAMPLE LOG
CHAIN OF CUSTODY
SUMMARY REPORT

Rush

SAMPLE ID / LAB SAMPLE #	TYPE	DESCRIPTION / LOCATION / SS#	PUMP	FLOW (L/m) PRE / POST	TIME ON / OFF	TOTAL (min)	VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	FIBER DENSITY (f/mm2)	AVG BLANK (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
1115-09 / 1182787	CL	WEST SIDE of 192 Basement. - Final		9.5 / 9.5	12:06 / 1413	127	1206.5	16	100	20.4			0.0065
1115-10 / 1182788	FB	Field Blank		– / –	– / –	–	–	0	100	1.27			—
1115-11 / 1182789	FB	Field Blank		– / –	– / –	–	–	0	100	1.27			—

COLLECTION:	ANALYSIS:
COLLECTED BY: Bryndey	ANALYZED BY:
ROTOMETER NO: VF C9	DATE ANALYZED:
FILTER LOT NO:	MICROSCOPE #:
CASSETTES: (0.8) 0.45 MCEF	

TURNAROUND TIME REQUESTED:			
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:

SAMPLE TYPE LEGEND:

BG	BACKGROUND	AMB	AMBIENT	EX	EXCURSION
FB	FIELD BLANK	IWA	INSIDE WORK AREA	CL	CLEARANCE
P	PERSONAL	OWA	OUTSIDE WORK AREA		

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

Please fax to (908) 243-0209
(610) 594-8609

501920

FAXED 11/16/00

CAP343 9-

CAPE ENVIRONMENTAL MANAGEMENT INC
EXPOSURE MONITORING RESULTS

Site: Federal Creosote Site
Address: Lagoon B - 172 E. Camplain Rd.
Project #00310.001.000

Page: 1 of 1
Survey Date: 11/15/00
Sampled By: Eric R. Lynch

Employee Name; SSN.; Job Title	Location; Activities; Contaminant; Respirator Use	Sample Number	Sampling Period / Duration	Flow Rate (LPM)	Volume (L)	Results (f/cc Effilo)	TWA and PEL (f/cc)
Casey Siwula; 326-58-3053; Equipment Operator	172 E. Camplain; Demolition, Asbestos; N/A.	1115-01P	1302/1616	2.0	388.0	84/100 107.0	0.11

1182790

LEGEND:

LPM:	Liters per minute	TWA:	Eight-hour time-weighted average exposure
PEL:	OSHA eight-hour TWA exposure limit	STEL:	OSHA 15-minute TWA exposure limit
C:	OSHA ceiling limit	ppm:	Parts per million parts of air
f/cc:	Fibers per cubic centimeter of air	mg/m³:	Milligrams per cubic meter of air

Bmd 11/16/2000

COMMENTS:

Sampling Equipment: Sensedyne Low Volume Air Sampling Pump
Calibration Standard: Rotometer
Met. Cond. (Temp./Wind/Humidity/Press.): Sunny - 48°F / N - 12mph.
Workshift Duration / PPE / Misc.: 0800 - 1650

501921

Rev.: 8/00

CAT-E
ENVIRONMENTAL MANAGEMENT

Client Name: Corps of Engineers Project Manager: Kurt Gates

Proj. Name / Number: FEDERAL Geosote Site 1 00310.001.100

Date collected: 11-16-2000 Shift: 1

Work area: Bldg 198 Exterior

FAXED 11/18

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

T.A. RUSH

SAMPLE ID LAB SAMPLE #	TYPE	DESCRIPTION / LOCATION / SS#	PUMP	FLOW (L/m) PRE	FLOW (L/m) POST	TIME ON	TIME OFF	TOTAL (min)	VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	FIBER DENSITY (f/mm2)	AVG BLANK (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTRI (f/cc)
1116-01		NWEST Corner of 198		2.5		830		395	987.5	3/100		3.82			
	OWA	Lot 1184060		2.5		1505									<0.0027
1116-02		NEAST Corner of 198		2.5		833		395	987.5	25/100		31.9			
	OWA	Lot 1184061		2.5		1508									0.012
1116-03		Clean Room - Decon In		2.5		837		394	985.	2/100		2.5J			
	OWA	Bldg 198. 1184062		2.5		1511									<0.0027
1116-04		Rogers Lee		2.0		846		376	752	38/100		48.4			
	P	Transit Remote 1184063		2.0		1502									0.025J
1116-05				—		—				0/100					
	FB	Field Blank 1184064		—		—		—	—			1.27			—
1116-06				—		—				0/100					
	FB	Field Blank 1184065		—		—		—	—			1.27			—
													NOV 17		

COLLECTION:	ANALYSIS:	TURNAROUND TIME REQUESTED: RUSH	
COLLECTED BY: Bryan Beck	ANALYZED BY:	RELINQUISHED BY: Bryan	RECEIVED BY: Tom D
ROTOMETER NO:	DATE ANALYZED:	DATE: TIME:	DATE: 11/18/2000 TIME:
FILTER LOT NO:	MICROSCOPE #:	RELINQUISHED BY:	RECEIVED BY:
CASSETTES: (0.8) 0.45 MCEF		DATE: TIME:	DATE: TIME:

RH @ 11/28/00

SAMPLE TYPE LEGEND:

BG BACKGROUND
FB FIELD BLANK
P PERSONAL
AMB AMBIENT
IWA INSIDE WORK AREA
OWA OUTSIDE WORK AREA
EX EXCURSION
CL CLEARANCE

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

Please fax (610) 594-8609 (908) 243-0209

501922

C A E
ENVIRONMENTAL MANAGEMENT I N C

Client Name: Corps of Engineers Project Mana Kurt Gates

Proj. Name / Number: Federal Creosote Site 1 00310.001.100

Date collected: 11-17-04 Shift: 11/18

Work area: Bldg 204 + 219

FAXED

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

RUSH

SAMPLE ID LAB SAMPLE #	TYPE	DESCRIPTION / LOCATION / SS#	PUMP	FLOW (L/m) PRE	FLOW (L/m) POST	TIME ON	TIME OFF	TOTAL (min)	VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	FIBER DENSITY (f/mm2)	AVG BLANK (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
1117-01		NWEST Corner of		2.5		810		315	787.5	5/100		6.37			
	OWA	204 Lot 1184066		2.5		1325									<0.0034
1117-02		NEAST Corner of		2.5		813		314	785	3/100		3.82			
	OWA	204 Lot 1184067		2.5		1327									<0.0034
1117-03		Rear of 204 1184068		2.5		815		315	787.5	4/100		5.10			
	IWA			2.5		1330									<0.0034
1117-04		Clean Room - decon at		2.5		820		302	755	5/100		6.37			
	OWA	198 1184069		2.5		1322									<0.0036
1117-05		Field Blank 1184070		—		—		—	—	0/100	1	1.27			—
	FB			—		—									
1117-06		Field Blank 1184071		—		—		—	—	0/100		1.27			—
	FB			—		—									

COLLECTION:	ANALYSIS:	TURNAROUND TIME REQUESTED:	Rush	
COLLECTED BY:	ANALYSIS BY: bmd	RELINQUISHED BY:	RECEIVED BY:	
ROTOMETER NO:	DATE ANALYZED: 11/29/04	DATE: TIME:	DATE:	TIME:
FILTER LOT NO:	MICROSCOPE #:	RELINQUISHED BY:	RECEIVED BY:	
CASSETTES: 0.8 / 0.45 MCEF		DATE: TIME:	DATE:	TIME:

SAMPLE TYPE LEGEND:

BG	BACKGROUND	AMB	AMBIENT	EX	EXCURSION
FB	FIELD BLANK	IWA	INSIDE WORK AREA	CL	CLEARANCE
P	PERSONAL	OWA	OUTSIDE WORK AREA		

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

Please fax to (610)-594-8609 Gail 243-0205

NOV 17

MRP 11/28/04

501923

CAPE
ENVIRONMENTAL MANAGEMENT INC

Client Name: Army Corps of Engineers Project Manager: Kurt Gates

Proj. Name / Number: FEDERAL CREOSOTE SITE / 00310.001.100

Date collected: 11-27-2000 Shift: 1

Work area: interior 204 / Exterior 210

FAXED 2050

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

RUSH

SAMPLE ID LAB SAMPLE #	TYPE	DESCRIPTION / LOCATION / SS#	PUMP	FLOW (L/m) PRE / POST	TIME ON / OFF	TOTAL (min)	VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	FIBER DENSITY (f/mm2)	AVG BLANK (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
1127-01		CLEAN Room - Decon		9.5	740	141	1339.5	3					
1186300	OWA	IN 204.		9.5	1001				100	3.82		0.0020	<0.0020
1127-02		OUTSIDE Decon IN		9.5	742	140	1330	2					
1186301	OWA	204		9.5	1002				100	2.55		0.0020	<0.0020
1127-03		Work Area - Kitchen		2.5	745	135	337.5	30					
1186302	IWA	of 204		2.5	1000				100	38.2		0.0080	0.044
1127-04		Hublio Cruz		2.0	748	131	262	57.5					
1186303	P	Floor Sheeting Demo		2.0	959				100	65.6		0.010	0.096
1127-05		Hublio Cruz		2.0	10:25	250	500	17.5					
1186304	P	Transite removal		2.0	1435				100	22.3		0.005	0.017
1127-06		NE Corner of Lot		2.5	1027	251	627.5	3					
1186305	OWA	210		2.5	1438				100	3.82		0.0043	<0.0043
1127-07		NW Corner of Lot		2.5	1030	250	625	1					
1186306	OWA	210		2.5	1740				100	1.27		0.0043	<0.0043
1127-08		FINAL - REAR of		9.5	1210	130	1235	3.5					
1186307	CL	Kitchen (204)		9.5	1420				100	4.46		0.0022	<0.0022

COLLECTION:	ANALYSIS:	TURNAROUND TIME REQUESTED:		RUSH	
COLLECTED BY: [illegible]	ANALYZED BY:	RELINQUISHED BY: [illegible]		RECEIVED BY:	
ROTOMETER NO: 4F/11F C4	DATE ANALYZED: LGS 11/27/00	DATE: 11/27	TIME:	DATE:	TIME:
FILTER LOT NO:	MICROSCOPE #:	RELINQUISHED BY:		RECEIVED BY:	
CASSETTES: 0.8 / 0.45 MCEF		DATE:	TIME:	DATE:	TIME:

LGS 11/27 1850

SAMPLE TYPE LEGEND:

BG BACKGROUND AMB AMBIENT EX EXCURSION
FB FIELD BLANK IWA INSIDE WORK AREA CL CLEARANCE

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

908-243-0209
RUSH - 610-524-8207

501924

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Client Name: Army Corps of Engineers Project Manager: Kurt Gates
Proj. Name / Number: FED Creosote Site / 00310.001.100
Date collected: 11-27-2000 Shift: 1
Work area:

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

P2 of 2

SAMPLE ID LAB SAMPLE #	TYPE	DESCRIPTION / LOCATION / SS#	PUMP	FLOW (L/m) PRE / POST	TIME ON / OFF	TOTAL (min)	VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	FIBER DENSITY (f/mm2)	AVG BLANK (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
1127-09		~~LEFT~~ FINAL - LEFT SIDE		9.5	1212	130	1235	2	100	2.55		0.0022	<0.0022
1186308	CL	of Kitchen - (204)		9.5	1422								
1127-10		FINAL - Right Side of		9.5	1213	130	1235	2	100	2.55		0.0022	<0.0022
1186309	CL	Kitchen - (204)		9.5	1423								
1127-11		FIELD BLANK		—	—	—	—	0	100	1.27	—	—	—
1186310				—	—								
1127-12		FIELD Blank		—	—	—	—	0	100	1.27	—	—	—
1186311				—	—								

COLLECTION:	ANALYSIS:	TURNAROUND TIME REQUESTED:	Rush	
COLLECTED BY: Bagley	ANALYZED BY:	RELINQUISHED BY: Bagley	RECEIVED BY:	
ROTOMETER NO:	DATE ANALYZED:	DATE: 11/27 TIME:	DATE:	TIME:
FILTER LOT NO:	MICROSCOPE #:	RELINQUISHED BY:	RECEIVED BY:	
CASSETTES: 0.8 / 0.45 MCEF		DATE: TIME:	DATE:	TIME:

SAMPLE TYPE LEGEND:

BG BACKGROUND AMB AMBIENT EX EXCURSION
FB FIELD BLANK IWA INSIDE WORK AREA CL CLEARANCE

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

Rush

501925

CAGE ENVIRONMENTAL MANAGEMENT I N C

U.S. ARMY

Client Name: Corps of Engineers Project Manager: Kuf Oates **RUSH**

Proj. Name / Number: FEDERAL Creosote Site / 00310.001.100

Date collected: 11/28/2000 Shift: 1

Work area: Bldg 210 interior / 216 Exterior

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

343/9

RUSH p 1 of 2

SAMPLE ID / LAB SAMPLE #	TYPE	DESCRIPTION / LOCATION / SS# / PUMP	FLOW (L/m) PRE / POST	TIME ON / OFF	TOTAL (min)	VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	FIBER DENSITY (f/mm2)	AVG BLANK (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
1128-01		CLEAN Room - decon in	9.5	759	231	2194.5		2/100	11.5			
1186754	OWA	210	9.5	1150								0.0020
1128-02		IN Living Room of	9.5	800	231	2194.5		5.5/100	7.01			
1186755	OWA	210	9.5	1151								0.0012
1128-03		AFD EXHAUST	2.5	803	229	572.5		2/100	2.55			<0.0047
1186756	OWA		2.5	1152								
1128-04		WEST SIDE of	2.0	805	230	460		104/35	379			
1186757	IWA	Work Area.	2.0	1155								0.32
1128-05		MARIO Penaherrera	2.0	802	236	472		VOID			overloaded	
1186758	P	Floor Demo/Removal	2.0	1158								
1128-06		MARIO Penaherrera	2.0	1254	114	228		13/100	16.6			0.028
1186759	P	TRANSit Removal	2.0	1450								
1128-07		NWEST Corner of lot	2.5	1303	137	342.5		2/100	2.55			<0.0079
1186760	OWA	216	2.5	1520								
1128-08		N. EAST Corner of Lot	2.5	1305	138	345		2/100	2.55			<0.0078
1186761	OWA	216	2.5	1523								

COLLECTION:		ANALYSIS:	
COLLECTED BY:	T. Zapata	ANALYZED BY:	
ROTOMETER NO:	LF/C1	DATE ANALYZED:	12/4/00
FILTER LOT NO:		MICROSCOPE #:	
CASSETTES:	0.8 / 0.45 MCEF		

TURNAROUND TIME REQUESTED:		RUSH	
RELINQUISHED BY: T. Zapata		RECEIVED BY:	
DATE: 11/28/2000	TIME:	DATE: 11/29/00	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:

NJ @ 12/4/00

SAMPLE TYPE LEGEND:

BG BACKGROUND
FB FIELD BLANK
P PERSONAL
AMB AMBIENT
IWA INSIDE WORK AREA
OWA OUTSIDE WORK AREA
EX EXCURSION
CL CLEARANCE

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

fax to: (908) 243 0209
(619) 594 8609

FAXED 11/29/00

501926

CAPE ENVIRONMENTAL MANAGEMENT INC

Client Name: USArmy Corps of Engineers Project Manager: Kurt Gates

Proj. Name / Number: Federal Creosote Site 1 00316.001.100

Date collected: 11-28-2000 Shift: 1

Work area: interior work Area of 210

AIR SAMPLE LOG
CHAIN OF CUSTODY
SUMMARY REPORT

RUSH Pg 1 of 2

SAMPLE ID LAB SAMPLE #	TYPE	DESCRIPTION / LOCATION / SS#	PUMP	FLOW (L/m) PRE / POST	TIME ON / OFF	TOTAL (min)	VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	FIBER DENSITY (f/mm2)	AVG BLANK (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
1128-09		Left Side of Kitchen 210		9.5 / 9.5	1405 / 1609	124	1178		2/100	2.55			<0.0023
1186762	CL												
1128-10		Center of Kitchen 210		9.5 / 9.5	1406 / 1610	124	1178		2/100	2.55			<0.0023
1186763	CL												
1128-11		Right Side of Kitchen. 210		9.5 / 9.5	1407 / 1611	123	1168.5		2/100	2.55			<0.0023
1186764	CL												
1128-12		Field Blank		— / —	— / —	—	—		1/100	1.27			
1186765	FB												
1128-13		Field Blank		— / —	— / —	—	—		1/100	1.27			
1186766	FB												

COLLECTION:		ANALYSIS:	TURNAROUND TIME REQUESTED:		RUSH	
COLLECTED BY:	T Bagley	ANALYZED BY:	RELINQUISHED BY:		RECEIVED BY:	
ROTOMETER NO:	QF C1	DATE ANALYZED:	DATE: 11/2	TIME: 1810	DATE:	TIME:
FILTER LOT NO:		MICROSCOPE #:	RELINQUISHED BY:		RECEIVED BY:	
CASSETTES:	0.8 0.45 MCEF		DATE:	TIME:	DATE:	TIME:

SAMPLE TYPE LEGEND:

BG BACKGROUND
FB FIELD BLANK
P PERSONAL
AMB AMBIENT
IWA INSIDE WORK AREA
OWA OUTSIDE WORK AREA
EX EXCURSION
CL CLEARANCE

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

FAXED (11/29/00)

501927

CAE ENVIRONMENTAL MANAGEMENT

US ARMY

Client Name: Corps of Engineers Project Mana... Kurt Gaines

Proj. Name / Number: Federal Creosote S.C. I 00310.001.100

Date collected: 11/29/2000 Shift: 1

Work area: Bldg 216 Exterior

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

343/9

RUSH

RUSAL

SAMPLE ID LAB SAMPLE #	TYPE	DESCRIPTION / LOCATION / SS# PUMP	FLOW (L/m) PRE / POST	TIME ON / OFF	TOTAL (min)	VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	FIBER DENSITY (f/mm2)	AVG BLANK (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
1129-01	OWA	NW EAST Corner of Lot 216 on fence 118357	2.5 / 2.5	817 / 1450	393	982.5	1	100	1.27		0.0027	<0.0027
1129-02	OWA	NEAST Corner of Lot 216 on fence 118358	2.5 / 2.5	820 / 1452	392	980	1.5	100	1.91		0.0028	<0.0028
1129-03	OWA	S. EAST Corner of House on Porch 118359	2.0 / 2.0	822 / 1453	391	782	3	100	3.82		0.0034	<0.0034
1129-04	P	Charles Booker TRANSIT Removal 118360	2.0 / 2.0	825 / 1445	380	760	7.5	100	9.55		0.0035	0.0048
1129-05	FB	FIELD Blank 118361	- / -	- / -	-	-	0	100	1.27		—	—
1129-06	FB	FIELD Blank 118362	- / -	- / -	-	-	0	100	1.27		—	—

501928

COLLECTION:	ANALYSIS:
COLLECTED BY: PBradley	ANALYZED BY:
ROTOMETER NO: LF 1	DATE ANALYZED:
FILTER LOT NO:	MICROSCOPE #:
CASSETTES: 0.8 / 0.45 MCEF	

TURNAROUND TIME REQUESTED:		Rush	
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	
DATE:	TIME:	DATE: 11/30/00	TIME: 4:30 PM

MC @ 12/4/00

SAMPLE TYPE LEGEND:

BG BACKGROUND
FB FIELD BLANK
P PERSONAL
AMB AMBIENT
IWA INSIDE WORK AREA
OWA OUTSIDE WORK AREA
EX EXCURSION
CL CLEARANCE

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

908 243 0209

610 594 8605

LS 11/30

WS 11/30/00 1700

CAPE
ENVIRONMENTAL MANAGEMENT
I N C

Client Name: Corps of Engineers Project Manager: Kurt Coates

Proj. Name / Number: FEDERAL Creosote Site / 00310.001.10c

Date collected: 1-30-2000 Shift: 1

Work area: 216 entrance

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

RUSH

SAMPLE ID LAB SAMPLE #	TYPE	DESCRIPTION / LOCATION / SS# PUMP	FLOW (L/m) PRE / POST	TIME ON / OFF	TOTAL (min)	VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	FIBER DENSITY (f/mm2)	AVG BLANK (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
1130 - 01		CLEAN Room - clean	2.5	8:14	253	632.5	25	100	31.8		0.0043	0.019
	OWA	AT 216. 1186363	2.5	12:27								
1130 - 02		Living Room - adjacent to	2.5	8:16	254	635	2	100	2.55		0.0042	<0.0042
	OWA	Kitchen Work Area 1186364	2.5	12:30								
1130 - 03		AFD Exhaust.	2.5	8:18	262	655	—	Overloaded				
	OWA	1186365	2.5	12:46								
1130 - 04		Work Area - center	2.0	8:20	245	490	1	100	1.27		0.0055	<0.0055
	IWA	1186366	2.0	12:25								
1130 - 05		Rogers Lee	2.0	8:23	227	454	—	Overloaded				
	P	Floor Sheeting and 1186367	2.0	12:10								

COLLECTION:		ANALYSIS:	
COLLECTED BY:	[signature]	ANALYZED BY:	KS 11/30/00
ROTOMETER NO:	LF 2	DATE ANALYZED:	
FILTER LOT NO:		MICROSCOPE #:	
CASSETTES:	0.8 / 0.45 MCEF		

TURNAROUND TIME REQUESTED:		RUSH	
RELINQUISHED BY:	[signature]	RECEIVED BY:	
DATE: 11/30	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	[signature]
DATE:	TIME:	DATE: 11/30/00	TIME: 450

ND @ 12/14/00

SAMPLE TYPE LEGEND:

BG	BACKGROUND	AMB	AMBIENT	EX	EXCURSION
FB	FIELD BLANK	IWA	INSIDE WORK AREA	CL	CLEARANCE
P	PERSONAL	OWA	OUTSIDE WORK AREA		

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

(908) 243-0205

(610) 594-8609

501929

CAPE ENVIRONMENTAL MANAGEMENT I N C

Client Name: Corps of Engineers Project Ma[illegible] Kurt Coles

Proj. Name / Number: Libby Creosote Site 1 003/0.001.100

Date collected: 11/30/2000 Shift: 1

Work area: Bldg 316 Interior

AIR SAMPLE LOG CHAIN OF CUSTODY SUMMARY REPORT

P282 Rush

SAMPLE ID LAB SAMPLE #	TYPE	DESCRIPTION / LOCATION / SS#	PUMP	FLOW (L/m) PRE / POST	TIME ON / OFF	TOTAL (min)	VOLUME (L)	FIBERS COUNTED	FIELDS COUNTED	FIBER DENSITY (f/mm2)	AVG BLANK (f/mm2)	DETECTION LIMIT (f/cc)	MEASURED CONCENTR (f/cc)
1130 06		Bottom of Steps in		9.5	1305								
	CL	Basement Rm 116	1186368	9.5	1515	130	1235	1	100	1.27		0.0022	<0.0022
1130 07		Hallway at Basement		9.5	1306								
	CL	Steps.	1186369	9.5	1517	131	1245	3.5	100	4.46		0.0022	<0.0022
1130 08		Kitchen NEXT to H2O		9.5	1307								
	CL	FEEDS	1186370	9.5	1518	131	1245	2	100	2.55		0.0022	<0.0022
1130 09													
	FB	Field Blank	1186371				—	0	100	1.27		—	—
1130 -10													
	FB	Field Blank	1186372				—	1	100	1.27		—	—

COLLECTION:		ANALYSIS:	
COLLECTED BY:	[illegible]	ANALYZED BY:	VBS 11/30/00
ROTOMETER NO:	LEI	DATE ANALYZED:	
FILTER LOT NO:		MICROSCOPE #:	
CASSETTES:	0.8 0.45 MCEF		

TURNAROUND TIME REQUESTED:		RUSH	
RELINQUISHED BY:	[illegible]	RECEIVED BY:	
DATE: 11/30/00	TIME:	DATE:	TIME:
RELINQUISHED BY:		RECEIVED BY:	[illegible]
DATE:	TIME:	DATE: 11/30/00	TIME: 450

VB @ 12/4/00

SAMPLE TYPE LEGEND:

BG	BACKGROUND	AMB	AMBIENT	EX	EXCURSION
FB	FIELD BLANK	IWA	INSIDE WORK AREA	CL	CLEARANCE
P	PERSONAL	OWA	OUTSIDE WORK AREA		

COLLECTED AND ANALYZED IN ACCORDANCE WITH NIOSH 7400 METHOD, ISSUE 2 (PCM)

Please call Phil at 610 766 0657 when finals are Completed or Fax to 908-243-0209

501930

Appendix D

CleanVenture/CycleChem

CVCC 024528

The Environmental Services Source

NON-HAZARDOUS SOLID WASTE

BILL OF LADING

BOL 020313/3A

Generator's Name and Mailing Address: USEPA Region II, 290 Broadway 19th Floor, New York, New York, 10007

Generator's Phone: (908) 243-0318

26 Rustic Mall, Manville, NJ

Transporter 1 Company Name: CleanVenture, Inc. NJ0000027193

State Trans. ID-NJDEPE 505811

Decal No.- 086488

Transporter's Phone (908) 355-5800

Transporter 2 Company Name:

State Trans. ID-NJDEPE

Decal No.-

Transporter's Phone ( )

Designated Facility Name and Site Address: CycleChem Inc, 217 South First St., Elizabeth, NJ 07206

10. US EPA ID Number: NJD002200046

Facility's Phone (908) 355-5800

GENERATOR

	US DOT Description (Including Proper Shipping Name, Hazard Class or Division, ID Number and Packing Group)	Containers No.	Containers Type	Total Quantity	Unit Wt/Vol	Waste No.
a.	Chemical Process Liquid NON DOT/NON RCRA	XX1.	CF	XX 200	G	ID72
b.	Chemical Process Liquid NON DOT/NON RCRA	XX1	DM	XXX30	G	ID72
c.						
d.						

J. Additional Descriptions for Materials Listed Above

a. Overpacted Latex, Glues, & Resins 100% L

b. Motor Oil & Water 100% L

c.

d.

SD1

O. Generator # and Product Codes: 24 hr. Emergency (908) 355-5800 CleanVenture Inc.

A) GROY

B) REM002 Plate AF501H

Job # 20599-02-10

GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations and are non-hazardous by USEPA & applicable state regulations.

Matthew A. Lindsey — N/A — ☐ YES ☒ NO Quantities on Container

Printed/Typed Name | Signature | Month Day Year: 10/11/02

TRANSPORTER

Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Greg Lindsey | Signature | Month Day Year: 10/11/02

Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

FACILITY

Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest.

Printed/Typed Name | Signature | Month Day Year

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. NJ0001900281874 10 — Manifest Document No.
2. Page 1 of 2 — Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address: USE Region II, 290 Broadway 19th Floor, New York, New York 10007
4. Generator's Phone: (908) 243-03[illegible]

A. State Manifest Document Number: NJA3287440
B. State Generator's ID: 26 Rustic Mall, Roselle, NJ
C. State Transporter's ID: 505811
D. Transporter's Phone: (908) 355-5800
E. State Transporter's ID:
F. Transporter's Phone:
G. State Facility's ID:
H. Facility's Phone: (908) 355-5800

5. Transporter 1 Company Name: Clean Venture, Inc — 6. US EPA ID Number: NJ0000027193
7. Transporter 2 Company Name — 8. US EPA ID Number:
9. Designated Facility Name and Site Address: Cycle Chem, Inc. 217 South First St. Elizabeth, New Jersey 07206 — 10. US EPA ID Number: NJD022000046

	11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste No.
a.	X — Waste Corrosive Liquids, NOS 8 UN1760 PG II	XX1	DF	XXX15	G	D002
b.	X — Waste Polychlorinated Biphenyls 9 UN2315 PG II	XX1	DF	XXXX5	G	PCB's
c.	X — Pesticides, Liquid, Toxic, NOS 6.1 UN2902 PG II	XX1	DF	XXXX5	G	[illegible]
d.						

J. Additional Descriptions for Materials Listed Above:
A) Overpacked Basic cleaner 100/. DF
B) Non-leaking PCB Light Ballast 100 lbs
C) Overpacked Liquid Pesticide 100/. L

K. Handling Codes for Wastes Listed Above:

15. Special Handling Instructions and Additional Information: 24hr. Emergency # (908) 355-5800 CleanVenture, Inc. 92855
A) ERG# 154 UDW C) ERG# 151 LPEST
B) ERG# 171 MC12 Plate# AF501H
Job# 92599-02-10

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: Matthew A. Ludwig (As a agent for USEPA Region II) — Signature: [signature] — Month 01 Day 11 Year 09

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Greg Lindsey — Signature: [signature] — Month 01 Day 11 Year 09

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name — Signature — Month Day Year

19. Discrepancy Indication Space: 11B) DELETE WASTE 1B) ADD X910

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Helen Ellis — Signature: [signature] — Month 01 Day 11 Year 09

Stock CF 17 LABELMASTER, AN AMERICAN LABELMARK CO., CHICAGO, IL 60648 (800)621-8808

EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete.

ORIGINAL-RETURN TO GENERATOR

501933

Department of Environmental Protection
Manifest Section
P.O. Box 421, Trenton, NJ 08625-0421

3287410

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. NJ100019028 | Manifest Document No. 87411O | 2. Page 1 of 2 | Information in the shaded areas is not required for Federal law

3. Generator's Name and Mailing Address
US EPA Region II
290 Broadway 19th floor
New York, NY 10007 908 243-0318

A. State Manifest Document Number NJA 3287410

E. State Generator's ID (Optional Site Address) 24 Rustic Mall Manville, NJ

5. Transporter 1 Company Name: Clean Venture Inc | US EPA ID Number: NJ0000027193 | C. State Trans. ID #/DEP? S0580 | Vehicle No. 08648 | D. Transporter's Phone 908 355-5800

7. Transporter 2 Company Name | US EPA ID Number | E. State Trans. ID #/DEP? | Vehicle No. | F. Transporter's Phone

9. Designated Facility Name and Site Address: Cycle Chem Inc.
217 South First Street
Elizabeth, NJ 07206 | US EPA ID Number: NJD002200046 | G. State Facility ID | H. Facility's Phone 908 355-0552

	HM	11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.	I. Waste No.
a.	X	R.Q. Waste Paint Related Material, 3, UN PGII (D001)	1263	XX	1CF	XX	200 G	D001
b.	X	R.Q. Waste Paint Related Material 3 UN1263 PGII (D001) ✓	XX	1DM	XX	55 G	D001
c.	X	Waste Aerosols 2.1 UN1950 ✓	XX	1DF	XX	115 G	D001
d.	X	Waste Corrosive Liquids, NOS 8 UN1760 PGII	XX	1DF	XX	X5 G	D002

J. Additional Descriptions for Materials Listed Above
a. Paint cans with naptha & mineral spirits 100% LI
b. Paint cans with naphtha + Mineral spirits 100% LI
Overpacked Aerosol Cans 100% GI
Overpacked Acidic cleaners 100% LC

K. Handling Codes for Wastes Listed Above
a. S01 / S01
b. S01 / S01

15. Special Handling Instructions and Additional Information
24hr. Emergency # (908)355-5800 Clean Venture, Inc.
a) ERG#127 UIK Job #92599-02-10 C) ERG# 126 R&O7 928753
B) ERG# 127 UIK D) ERG# 154 UD m PLATE# AF501H Job# 92599-02-10

16. GENERATOR'S CERTIFICATION: I certify the materials described on this manifest are not subject to Federal regulations for reporting proper shipping name, hazard class, ID number, and packing group (if any) are properly classified, described, packaged, marked and labeled, and are in all respects in proper condition for transportation by highway according to applicable international and national governmental regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: Matthew A Ludwig (As a agent for USEPA Region II) | Signature: Matthew A Ludwig | Month 01 Day 18 Year 02

17. Transporter 1 Acknowledgment of Receipt of Materials

Printed/Typed Name: Greg Lindsey | Signature: Greg Lindsey | Month 01 Day 18 Year 02

18. Transporter 2 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Helen Ellis | Signature: Helen Ellis | 01/18/02

SIGNATURE AND INFORMATION MUST BE LEGIBLE ON ALL COPIES

501934

Appendix E

New Jersey Natural Resources Conservation Program

SOMERSET - UNION CONSERVATION DIS
Somerset County 4-H Center, Milltown
Bridgewater, New Jersey 08807
Telephone (908) 526-2701

January 30, 2001

Kim Lickfield
Sevenson Environmental Services, Inc.
2749 Lockport Road
Niagara Falls, NY 14305

RECEIVED FEB - 1 2001

Re: Federal Creosote
Superfund Project 172-216
(plan dated 12/5/00)
Manville Borough
Application 0s-11-6776

Dear Ms. Lickfield:

The Somerset-Union Soil Conservation District has reviewed the above erosion control plan and certifies that the plan is in accordance with the N.J. Erosion and Sediment Control Act, Chapter 251, P.L. 1975.

This approval is limited to the soil erosion and sedimentation controls specified in this plan. It is not authorization to engage in the proposed land use unless such use has been previously approved by the municipality or other controlling agency.

All revisions and municipal renewals of this project will require resubmission and approval by the District. Any conveyance of the project (or portion thereof) will transfer full responsibility for compliance to subsequent owner(s). The District must be notified in writing of any change of ownership.

The District requires written notification prior to the start of land disturbance. Please be advised that failure to do so is considered a violation of State Law.

If there are any questions, please feel free to call our office.

Very truly yours,

SOMERSET-UNION S.C.D.

Kenneth B. Marsh
District Supervisor

KBM/EHT/cah J:\CERTS\CertLet-ManvilleFederalCreosoteSuperfund.doc
Enclosure
pc: Borough of Manville Planning Board
Borough of Manville Construction Official
Borough of Manville Engineer
Rich Vuvogel, USEPA Region II

501936

Soil Erosion and Sediment Control Plan

1.1 *General Site Sediment Controls*

Sevenson will implement the components of a Site Soil Erosion and Sediment Control Plan as required by the Contract Drawings and Contract Specification Section 02485. The Soil Erosion and Sediment Control Plan will be submitted to the Somerset-Union Soil Conservation District (SUSCD) for certification. A copy of the certification from SUSCD will be submitted to the USACE for their information. Prior to the start of any invasive activity the SUSCD will be notified in writing. The components of the plan are as follows:

a) Siltation and erosion control practices will be consistent with the procedures outlined in the New Jersey Standards for Soil Erosion and Sediment Control. Siltation barriers will be installed in areas where there will be direct disturbance to the existing ground surface (i.e. The properties located on East Camplain Rd.). Therefore, the entire outer perimeter of the excavation area will be encompassed with the siltation barriers with exception to entry and egress points necessary to gain access for construction activities. The trailer compound located in the Rustic Mall Parking Lot will be installed on top of the existing asphalt surface. Addresses to be protected are as follows:

1. 127 E. Camplain Rd.
2. 172 E. Camplain Rd.
3. 180 E. Camplain Rd.
4. 186 E. Camplain Rd.
5. 192 E. Camplain Rd.
6. 198 E. Camplain Rd.
7. 204 E. Camplain Rd.
8. 210 E. Camplain Rd.
9. 216 E. Camplain Rd.
10. CSX Railroad Right-of-Way directly behind these properties.

b) Sedimentation barriers will be installed in all areas where the potential of soil runoff and erosion may occur at both the support zone and the site proper. Pre-manufactured siltation fences will be used as these barriers. Siltation fences will be embedded to prevent water from running under them. The siltation fences will be installed at the bottom, down gradient side, of slopes, and in ditches and other areas where siltation may be a problem and will be maintained until a grass stand has been established.

Soil Erosion and Sediment Control Plan

These fences will be maintained in satisfactory condition for the duration of the project. Drawing 1 indicates the proposed approximate location of silt fences. Manufactures data catalog will be submitted to the USACE for informational purposes.;

c) *Previous established grades will be maintained in a true and even condition.;*

d) Construction of a temporary decontamination pad will be performed to collect runoff from the decontamination process.;

e) Areas of bare soil exposed at any given time by construction will be restricted to a minimum. However, where bare soil is to be exposed it will be re-seeded in accordance with the New Jersey Soil Erosion and Sediment Control Act, Permanent Stabilization Standard and Contract Section 02921 Requirements.;

f) Prior to allowing any contaminated piece of equipment to leave the site, the equipment will be washed down with a high pressure steam cleaner at the equipment decontamination facility.;

g) Any spread of uncontaminated mud or soil from the site will be cleaned up promptly by Sevenson using a powered broom attachment mounted on a skid-loader or by hand utilizing push brooms and shovels. This operation is to be performed at the discretion of the Quality Control Manager and will occur at an "as needed" interval within a reasonable allotted time frame. This operation may also include wash-down of the road area with water depending on temperature and weather conditions.;

h) Sevenson's Quality Control Manager will inspect the installed siltation fences on a daily basis or more frequently at problem areas and will report any failures and repairs of the barriers on his daily QC report. Inspections will be by visual means with no effluent sampling will be performed.; and

i) Maintenance of the existing Storm Sewer will be continuously provided during the course the project either by by-pass pumping or the installation of a temporary corrugated steel by-pass pipe of the same flow rating.

1.2 *Stockpiles*

a) Contaminated Material: If stockpiles are utilized the following procedures will be enforced: During periods where contaminated material excavation quantities are minimal, waste material will be stockpiled on contaminated areas awaiting excavation or at a larger excavation location. Stockpiles will be covered with six mil polyethylene in a way to suppress dust and to allow water runoff without contaminating the runoff water. Stockpiles will be kept to a minimum, typically under one hundred cubic yards. Soil erosion control measures, silt fence, sand bags, etc.

will be installed around stockpiles to prevent the migration of contaminated material. At this time no stockpiling of contaminated material is anticipated due to possible odors emanating from this material.

b) Common Fill Material: Typically, common fill materials are delivered to the site in the quantities that are required for the particular operation. By coordinating these deliveries, stockpiling of these materials is minimized or eliminated altogether. In the event that stockpiling of these materials is required, stockpiling will be done in a manner to minimize runoff of the stockpiles. Polyethylene sheeting will be placed over the piles and erosion control measures (silt fence, sandbags, or hay bales) will be installed.

Sevenson will make every effort to coordinate the delivery and installation of these fill materials to minimize the quantity of material being stockpiled.

1.3 *Final Restoration, Maintenance, and Acceptance*

a) All disturbed areas, once fine graded to final contours, will be seeded in accordance with Contract Specification Section 02921.

1. When protection of newly graded areas is necessary at a time which is outside of the normal planting season, Sevenson will protect these areas by use of siltation barriers or by placing temporary straw mulch, or soil erosion control blankets and fabric to prevent siltation of areas beyond the work limit.
2. When sub-grade areas cannot be top soiled, planted, seeded, etc. because of the season or weather conditions and will remain exposed for more than 30 days, Sevenson will protect these areas against erosion by use of siltation fences, straw mulch, soil erosion control blankets or fabric .
3. All washed out areas will be re-graded to final grades.

b) All maintenance work will be performed in accordance with the Contract Specifications 02921 and 02930 until final acceptance is granted by the USACE.

c) At the completion of seed placement, the perimeter siltation fence (if used) will be repaired or replaced by Sevenson and will remain in place until the grass stand has been established as required by SUSCD. Once the planted area has been established, the sedimentation barriers will be removed and disposed of off-site.

Soil Erosion and Sediment Control Plan

1.4 *Somerset - Union Conservation District Requirements/Comments*

a) Drawing 1 indicates the approximate location of siltation fences. Fences will be installed at additional locations as required by construction activities.

b) The rate in pounds of percentages of grass is as follows:

Hard Fescue	120 lbs/acre
Perennial Rye	30 lbs/acre
Kentucky Bluegrass	40 lbs/acre

c) The lime and fertilizer rate and type is as follows:

Limestone: material will contain a minimum calcium carbonate equivalent of 80%.

Gradation: A minimum of 95% will pass through 2.36 mm No. 8 sieve and minimum of 55 % will pass through 0.250 mm No. 60 sieve. To raise ph, ground limestone will be used.

Hydrated Lime: will contain a minimum calcium carbonate equivalent of 110%.

Gradation: A minimum 100% will pass through 2.36 mm No. 8 sieve and a minimum 97% will pass through a 0.250 mm No. 60 sieve.

Burnt Lime: will contain a minimum calcium carbonate equivalent of 140%.

Gradation: a minimum 95% will pass through a 0.250 mm No. 60 sieve.

Fertilizer: applied at a rate of 500 pounds per acre or 11 pounds per 1000 square feet of 10-20-10 nitrogen-phosphorus-potassium or equivalent with 50% water insoluble nitrogen unless a soils tests indicates otherwise.

Limestone: Pulverized dolomitic limestone

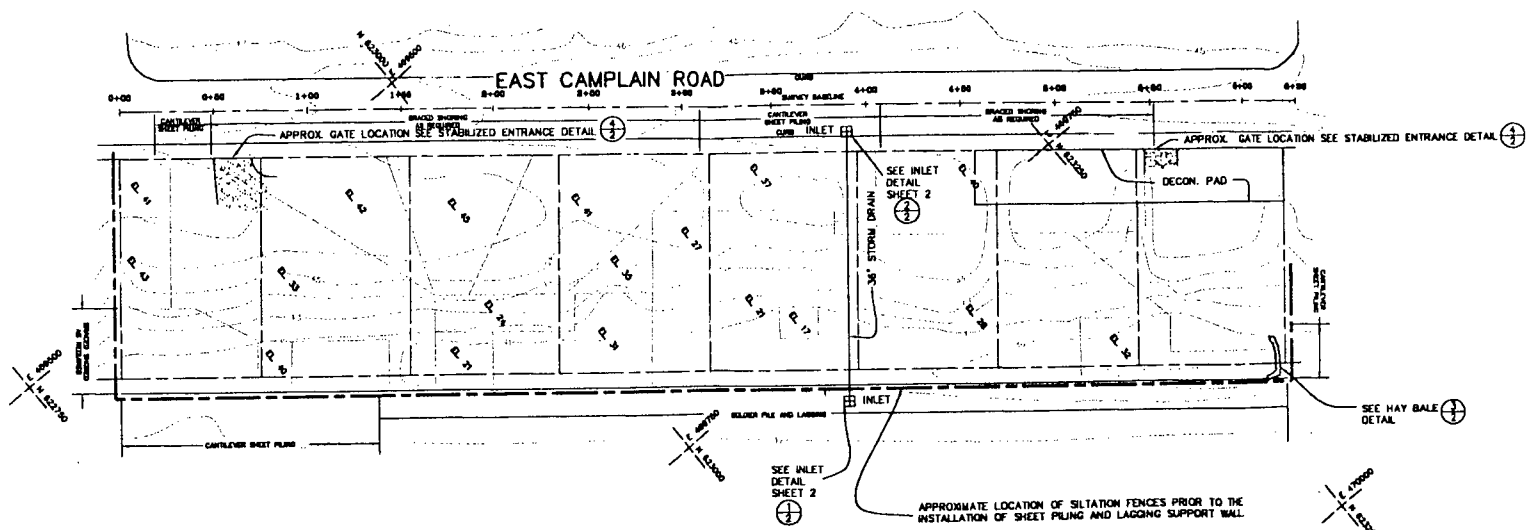
Soil Texture	Tons/Acre	Lbs./1000 Sq. Ft.
Clay, clay loam, high organic soil	3	135
Sandy loam, loam, silt loam	2	90

Soil Erosion and Sediment Control Plan

Loamy sand, sand	1	45

Installation to be in accordance with Table 4-1 Standard for Permanent Vegetive Cover for Soil Stabilization from the Standards for Soil Erosion and Sediment Control in New Jersey.

d) Mulch will be installed on all seeded areas as specified in contract Specification Section 02921.



SILTATION FENCE

GRAPHIC SCALE

(IN FEET)

NOTES:

1.) SILT FENCES WILL BE REPLACED UPON INSTALLATION OF PILING, AS REQUIRED.

2.) STOCKPILING OF SOIL MATERIALS WILL BE KEPT TO A MINIMUM. IN THE EVENT MATERIALS ARE STOCKPILED, THE STOCKPILE AREA WILL BE SURROUNDED WITH SILT FENCE.

3.) ADEQUATE PIPING WILL BE PROVIDED WHERE ACCESS ROADS CROSS SWALES THAT LEAD TO INLETS.

4.) 127 E. CAMPLAIN IS A PROTECTED ADDRESS. AS SUCH, EROSION CONTROL MEASURES WILL BE INSTALLED THERE AS DETERMINED IN THE FIELD.

CORPS OF ENGINEERS
APPROVED AS ANNOTATED
Subject to plans and specifications

File No. _____
Cont. No. _____

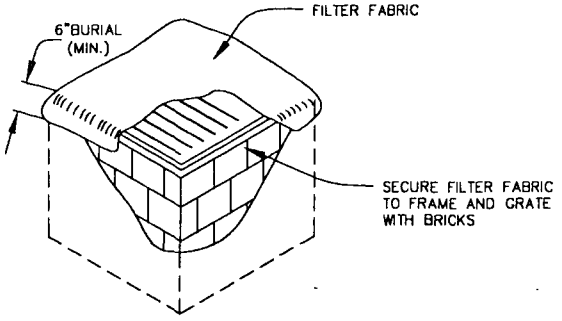
SOIL EROSION AND SEDIMENT CONTROL PLAN

FEDERAL CREOSOTE SUPERFUND SITE
OU1 PHASE 1
LAGOON B
MANVILLE, NEW JERSEY

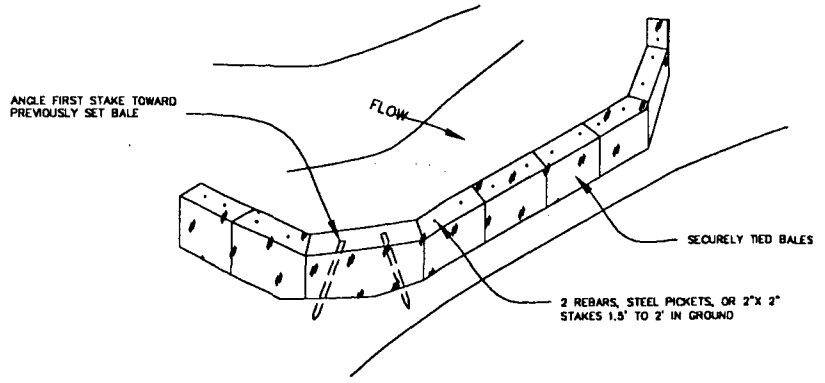
SEVENSON ENVIRONMENTAL SERVICES, INC.

DRAWING		
1	DATE:	12/3/2000
	DRAWN BY:	C. Ferrell
	CHKD BY:	K. Lockhart
	CAD FILE:	SILTFENCE
	SCALE:	AS SHOWN

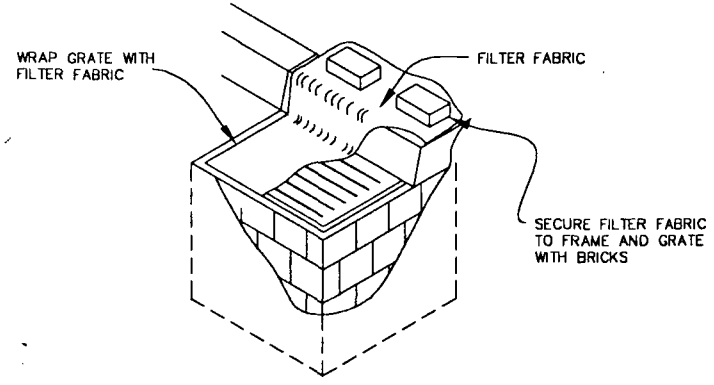
501942



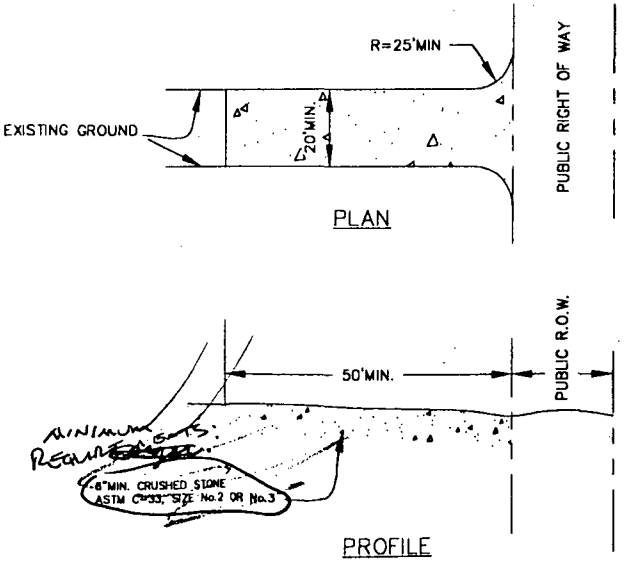
1/2 INLET FILTER DETAIL (VEGETATED AREA)
NTS



3/2 HAY BALE ANCHORING DETAIL
NTS



2/2 INLET FILTER DETAIL (PAVED AREA)
NTS



4/2 STABILIZED CONSTRUCTION ENTRANCE
NTS

NOTES:

1. SEVENSON WILL PROTECT ALL INLETS WITHIN THE LIMITS OF CONSTRUCTION AND AS DIRECTED BY THE CONTRACTING OFFICER.
2. SEVENSON WILL CLEAN INLET FILTER AFTER EVERY STORM OR AS NEEDED.
3. SEVENSON WILL REMOVE FABRIC FOLLOWING COMPLETION OF WORK.

CORPS OF ENGINEERS
APPROVED AS ANNOTATED
Subject to plans and specifications

File No. _____
Cont. No. _____

SOIL EROSION AND SEDIMENT CONTROL DETAILS

FEDERAL CREOSOTE
OU1 PHASE 1
LAGOON B
MANVILLE, NEW JERSEY

SEVENSON ENVIRONMENTAL SERVICES, INC.

DRAWING		
2	DATE:	2/14/01
	DRAWN BY:	C. Bigelow
	CHECKED BY:	K. Lickfield
	CAD FILE:	DETAILS
	SCALE:	AS SHOWN

T:\PROJECTS\MANVILLE\dwg\DETAILS.dwg 02/13/01 09:50:58 AM EST

501943

Appendix F

DWR-197
7/89

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

DEWATERING SYSTEM PERMIT

Mail to: Water Allocation
CN 029
Trenton, N.J. 08625-0029

Permit No. DSP-0328

Federal Creosote Site
Project Name

Manville Somerset
Location (Township, County)

DACW41-01-D-0001
Project Number

US EPA Region II
Owner's Name

26 Rustic Mall
Owner's Address

Manville, NJ 08835

Griffin Dewatering / Cam Kloczany
Licensed Dewatering Contractor/Well Driller

518 Millburn Avenue. 2nd Flr
Address

Short Hills, NJ 07078

Dewatering Contractor's Tel. # 973-921-9800

Contact Person/Telephone # "

REASON FOR DEWATERING (sewer const., water treatment facility, etc.) Site Remediation

PROPOSED DEWATERING WELL/WELL POINT CONSTRUCTION:

Note: changed To wells Verbally w/ Dawn @ NJDEP. 5-30-01 RC

Number of Wells 30 Well Points 200

Maximum Depth of Wells 30 ft./Well Points 30 ft.

Diameter of Casing 4 in./ Well Points 2 in.

Combined Capacity of Wells/Well Points 250 GPM

Method of Drilling (cable-tool, rotary, auger, etc.) Auger - Bucket

ATTACH A SITE PLAN MAP OR SKETCH OF PROPOSED WELL/WELL POINT LOCATIONS

State Atlas Sheet # 25 Latitude & Longitude 40°32'40", 74°35'40"

CONDITIONS:

☐ This permit is **NOT VALID** until a Water Allocation Permit is obtained for this project.

(Owner of dewatering project is responsible for obtaining a Water Allocation Permit Application for Temporary Dewatering Projects)

☐ Other _____

WELL PERMIT APPROVED
THIS SPACE FOR APPROVAL STAMP
MAY 21 2001
BUREAU OF WATER ALLOCATION

R. S. [illegible]
Signature of Owner

May 15, 2001
Date

R. Campbell Kloczany JD13757
Signature of Licensed Dewatering Contractor/Well Driller

5-10-01
Date

COPIES: *White - Water Allocation* *Yellow - Dewatering Contractor* *Pink - Owner*

501945

NALD T. DIFRANCESCO
Acting Governor

State of New Jersey
Department of Environmental Protection

Robert C. Shinn, Jr.
Commissioner

WATER SUPPLY ADMINISTRATION
BUREAU OF WATER ALLOCATION
P.O. BOX 426
TRENTON, NEW JERSEY 08625-0426
TEL.# 609-292-2957
FAX.# 609-633-1231

May 30, 2001

USEPA Region II
26 Rustic Mall
Manville, New Jersey 08835

Gentlemen:

Enclosed is your copy of Dewatering System Permit No. DSP-0328. Any well, or system, equipped with pumps capable of withdrawing 100,000 gallons of water per day must be reviewed to determine whether a Water Allocation Permit is required under the Water Supply Management Act of 1981.

Your Dewatering System Permit Application indicates that the combined capacity of the wells/well points is 250 GPM. Therefore, you have the capability to divert over 100,000 gallons per day.

In accordance with the Water Supply Management Act rules (N.J.A.C. 7:19-1 et seq.) you must:

1) If diverting over 100,000 gallons per day for a period in excess of 30 days - Apply for a Water Allocation Permit for Temporary Dewatering Projects or a Dewatering Permit-By-Rule, as appropriate. Enclosed are the necessary forms (BWA-002 and BWA-005) to apply for these permits. All information required by the instructions on the forms must be submitted to the Bureau. If you need assistance in determining which form to use for your activity, please contact this office.

2) If diverting over 100,000 gallons per day but for a period of less than 31 days - Return the enclosed Short Term Water Use Permit-By-Rule (BWA-003) to the Bureau of Water Allocation 30 days prior to the start of the diversion activity. Water diversion can be measured by the use of flow meters, weirs or pump capacity times hours of service (log book should be maintained).

3) If diverting less than 100,000 gallons per day - no further approval is required from the Bureau of Water Allocation. However, this must be confirmed in writing to the Bureau.

501946

All completed application forms and reports should be submitted to my attention. If you have any questions, you may contact the Bureau of Water Allocation at (609) 292-2957.

Sincerely,

Diane E. Zalaskus

Diane E. Zalaskus, P.E.
Section Chief
Bureau of Water Allocation

DEZ:bu

Enclosures

501947

Appendix G

501948

State of New Jersey
Department of Environmental Protection

DONALD T. DIFRANCESCO
Acting Governor

Robert C. Shinn, Jr.
Commissioner

Municipal Finance and Construction Element
Division of Water Quality
P.O. Box 425
Trenton, New Jersey 08625
Fax: (609) 633-8165
www.state.nj.us/dep/dwq

USEPA
290 Broadway, 19th Fl
New York, NY 10007-1866

August 21, 2001

Gentlemen:

There is enclosed a permit issued to you pursuant to Title 58 of the Revised Statutes of New Jersey and in consideration of your application received on 07/17/2001 signed by Richard Puvogel, Remedial Project Mananger, and Andrew N. Johnson, P.E.

The permit is for the construction and operation of a treatment works in Manville Boro, New Jersey and subject to the conditions as noted on the permit.

This approval is valid for a period of two (2) years from the issuance date, unless otherwise stated in the attached approval document. This approval shall expire unless building, installing or modifying of the treatment works has begun within the initial approval period. Treatment works approvals may be extended beyond the original two year approval date, to a maximum period of five years from the original issuance date, in accordance with the terms and conditions contained in N.J.A.C. 7:14A-22.12. A time extension request must be received by the Department prior to the permit's expiration date. Time extension requests shall be submitted to:

Bureau of Administration and Management
Municipal Finance and Construction Element
P.O. Box 425
401 E. State St., 3rd Floor
Trenton, New Jersey 08625

If you have any questions regarding the permit, please contact me by calling (609) 633-1208.

Sincerely,

Nicholas Horiates
Supervising Environmental Specialist
Bureau of Administration and Management

01-0568
Enclosure
cc: Blasland, Bouck and Lee

501949

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
P.O. Box 402, TRENTON, NJ 08625-0402

PERMIT TO CONSTRUCT AND OPERATE* TREATMENT WORKS

*Local Agency approval required prior to operation

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulation.

PERMIT NO.	ISSUANCE DATE	EXPIRATION DATE	DESIGN FLOW
01-0568	08/21/2001	08/20/2003	.72 M.G.D.

NAME AND ADDRESS OF APPLICANT
USEPA
290 Broadway, 19th Fl
New York NY 10007-1866

LOCATION OF ACTIVITY
Manville Boro
Somerset County

This permit grants permission to:
Construct and operate an oil/water separator, a polymer feed system, a settling tank, two (2) sediment filters, two (2) 30,000-pound carbon adsorption units and 3 holding tanks (total rated capacity @ 500 GPM) for groundwater remediation at the Federal Creosote Superfund Site, 172-216 E. Camplain Road, Lot 36 and 37, Block 315, in the Borough of Manville, Somerset County.

According to the plans entitled:
"Federal Creosote Superfund Site, Manville, New Jersey", prepared by Blasland, Bouck and Lee, Inc., dated July 16, 2001, unrevised, sheets 2-1, 2-2 and 2-3.

and according to the specifications entitled:
Construction Specifications, Federal Creosote Superfund Site, Manville, New Jersey", signed and sealed by Andrew N. Johnson, P.E., dated July 16, 2001.

Prepared by	APPROVED by the Department of Environmental Protection
Nicholas Horiates	Eugene Chebra, P.E., P.P., Chief
Supervising Environmental Specialist	Bureau of Administration and Management

This permit is also subject to special provisos and general conditions stipulated on the attached page(s) which are agreed to by the permittee upon acceptance of the permit.

501950

July 70

Department of Environmental Protection of the State of New Jersey

This Certifies That

JAMES C. RUSSELL

Has passed a satisfactory examination and is hereby authorized to operate a

N-4 Industrial Wastewater Treatment System

In accordance with the classification prescribed on the annual license therefor.

Licenses are Renewable.

501951

Registry No. N 1081

Trenton, New Jersey

Dec. 10 19 90

In Witness Whereof, *I have hereunto set my hand and caused the Seal of the State Department of Environmental Protection to be affixed.*

Judith A. Yaskin

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Examination & Licensing Unit
PO BOX 441
Trenton, NJ 08625-0411
(609)-777-1013

DEPARTMENT OF ENVIRONMENTAL PROTECTION — STATE OF NEW JERSEY

Please detach your license and carry it with you for identification purposes.

Hereby Certifies the Goodstanding of:

JAMES RUSSELL

License No. [redacted] Reg no.

as a licensed:

N4 INDUSTRIAL

Expires: 08/30/01 Document#: 001053100

JAMES RUSSELL

TO DETACH
- Push license down thru paper.

Document #:001053100

501952

Appendix H

GM

State of New Jersey

DONALD T. DiFRANCESCO
Acting Governor

Department of Environmental Protection
Division of Water Quality
P.O. Box 029 Trenton, NJ 08625-029
FAX: (609) 984-7938

COPY

Robert C. Shinn, J
Commissioner

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Richard Puvogel, RPM
USEPA
290 Broadway, 19th Floor
New York, NY 10007-1866

JUL 02 2001

Dear Mr. Puvogel:

RE: General B4B Permit Authorization to Discharge Treated Groundwater to the Surface Waters of the State: Master General Permit No. NJ0102709. Individual NJPDES/DSW General Permit Authorization No. NJG0139050. Federal Creosote Superfund Site, Manville, Somerset County.

Enclosed is an Individual NJPDES/DSW General Permit Authorization under the General Groundwater Petroleum Product Cleanup (B4B) Permit which was issued by the Department on October 31, 1998. This General Permit Authorization is issued in accordance with the New Jersey Pollutant Discharge Elimination System (NJPDES) Regulations N.J.A.C. 7:14A-1 et seq.

This individual General Permit Authorization allows for the discharge of treated groundwater to the Millstone River *via* a storm sewer from Discharge Serial Number (DSN) 001D. Individual requirements of this Authorization are specified on the permittee's Individual Authorization Pages. Violation of any condition of this authorization may subject the permittee to significant penalties.

The Department recognizes that the proposed discharge is a dewatering discharge that is expected to occur for approximately five (5) months. Please note that because this is a dewatering discharge, you are required to sample twice per week for all the parameters specified in Part III. Therefore, the requirements of this letter supercede the monitoring frequencies specified in Part III.

For the first batch of the treated effluent, it is the Department's understanding that the treated effluent will be stored in an on-site tank and analyzed prior to discharge to ensure compliance with the applicable effluent limitations. Specifically, compliance with the applicable effluent limits shall be assured prior to the commencement of the discharge of the batch. In the event that the on-site treatment can not treat all contaminants to the applicable effluent limitations for this first batch, the permittee does not have authorization to route the effluent to the receiving waters. For any remaining batches of

the treated effluent, the permittee shall assure compliance with the specified limits and the monitoring requirements.

The Department has determined that Chronic Toxicity requirements are not appropriate due to the short-term nature of the test.

If not already required, the permittee is encouraged to voluntarily implement the best management practices to ensure that good housekeeping practices are implemented at the facility. The implementation of best management practices at the site will extend the use and effectiveness of the treatment system by decreasing the likelihood of additional groundwater contamination from stormwater infiltration. Information regarding activity specific source control best management practices is available by contacting the Bureau of Point Source Permitting at the telephone number specified on the following page. This information is excerpted from U.S. Environmental Protection Agency's publication entitled, Stormwater Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices, EPA 832-R-92-006, September 1992.

The enclosed Authorization to discharge groundwater under the General Permit shall expire on November 30, 2003 or the expiration date of the Individual Authorization Page. Applications for renewal of this Authorization must be submitted at least 180 days prior to expiration of the General Permit pursuant to N.J.A.C. 7:14A-4.2(e) 3.

A copy of the Department's most recently revised Discharge Monitoring Report (DMR) Instruction Manual is available if needed by contacting the Bureau of Point Source Permitting. Please note that if there is a discrepancy between the General Permit Authorization and the DMR Instruction Manual, the General Permit Authorization always takes precedence.

All monitoring shall be conducted in accordance with the Department's most recently revised Field Sampling Procedures Manual. This manual is available through the Maps and Publications Sales Office, Bureau of Revenue, P.O. Box 417, Trenton, New Jersey 08625, (609) 777-1038.

If you have any questions concerning this action, please contact Harb Hundal at (609) 292-4860 or via e-mail at hhundal@dep.state.nj.us.

Sincerely,

Pilar Patterson

Pilar Patterson, Chief
Bureau of Point Source Permitting – Region 2
Division of Water Quality

Enclosure
C: Final Permit Distribution List

501955

New Jersey Department of Environmental Protection
Bureau of Point Source Permitting Region 2
Division of Water Quality
PO Box 029
Trenton, NJ 08625-0029
(609) 633-3869

AUTHORIZATION TO DISCHARGE
B4B -General Permit GW Petro Prod Cleanup

Permittee:
USEPA
290 Broadway, 19th Floor
New York, NY 10007-1866

NJPDES #: NJG0139050

SIC Code: 2491

Type of Activity: Surface Water GPA New

Property Owner:
USEPA
290 Broadway, 19th Floor
New York, NY 10007-1866

Location of Activity:
Federal Creosote Superfund Site
172-216 E. Complain Road et. al.
Manville, NJ 08835

Issuance Date:	Effective Date:	Expiration Date:
06/28/01	07/01/01	11/30/2003

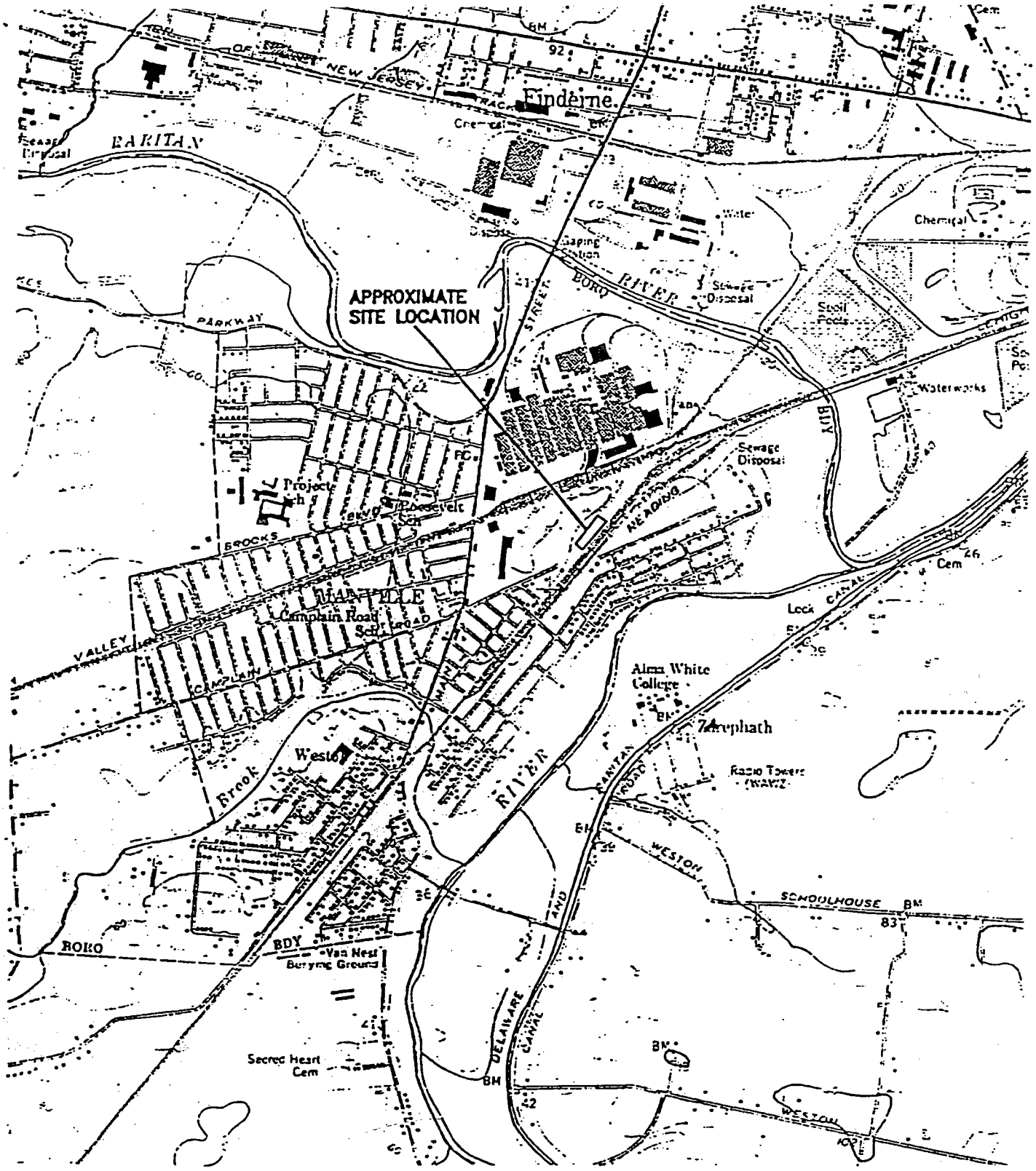
Outfall Number	Latitude	Longitude	Receiving Stream	Classification
001D	40°32'28"	74°34'42"	Millstone River via a storm sewer	FW2-NT

Your Request for Authorization under NJPDES General Permit No NJ 0102709 has been approved by the New Jersey Department of Environmental Protection

Date: 06/28/2001

Pilar Patterson, Chief
Bureau of Point Source Permitting Region 2
Division of Water Quality
New Jersey Department of Environmental Protection

501956



SOURCE:
USGS 7.5 MINUTE QUADRANGLE
BOUND BROOK, NJ
1955
PHOTOREVISED 1970
PHOTOINSPECTION 1977

SCALE = 1:24,000

FEDERAL CREOSOTE SUPERFUND SITE
MANVILLE, NEW JERSEY
NJPDES/DSW–CATEGORY B4B GPPC PERMIT

USGS SITE LOCATION MAP

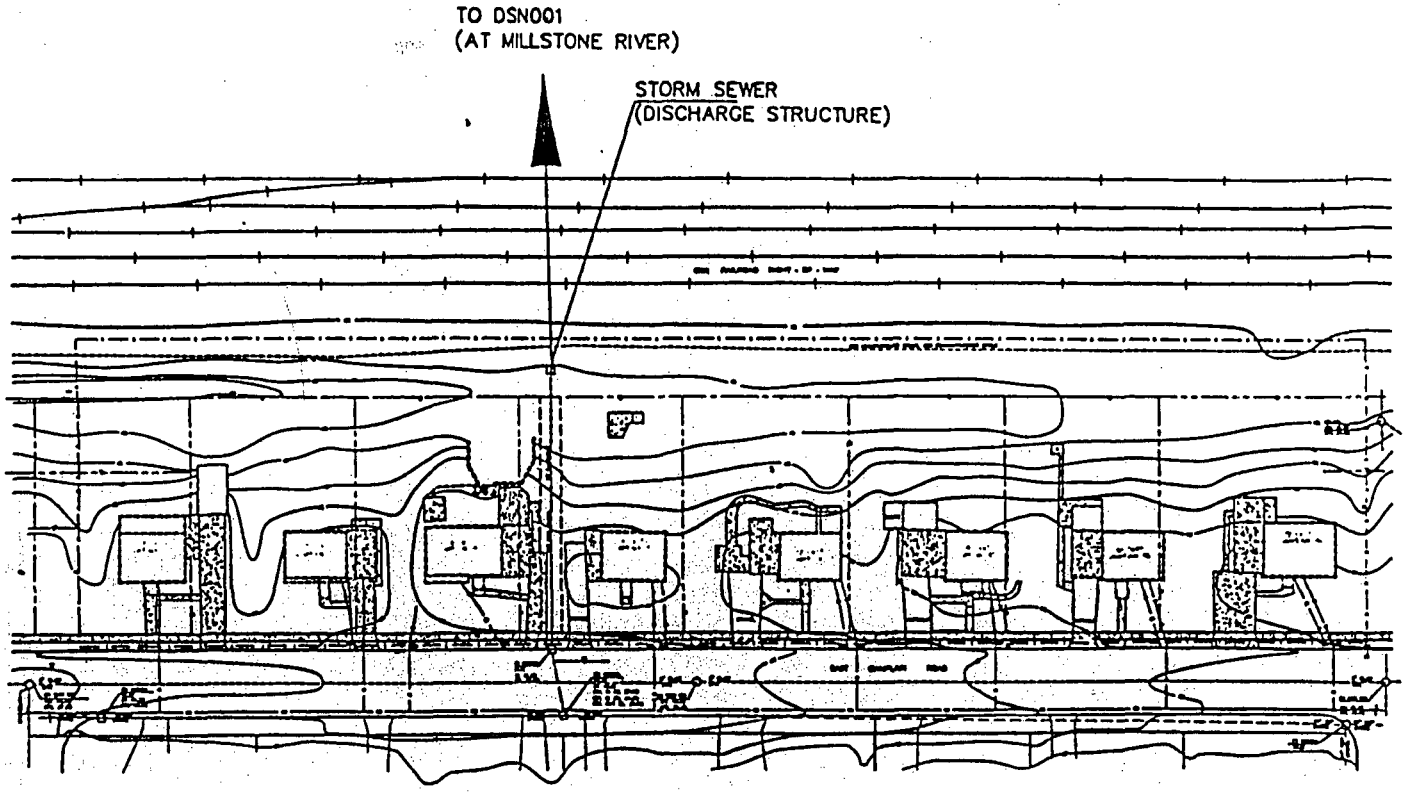
BBL BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE C

X: CARY-BOUNDBROOK.IPC
L: OFF-REF
P: STD-PCP/AP
04/20/01 CRA-54-TLF
84006001/84006B01.DWG

EPA REACH #-02030105-026
PSP SEGMENT CODE-07170000

501957



LEGEND

—·— EXISTING FENCE/ CONSTRUCTION LIMITS

SOURCE:
CDM FEDERAL PROGRAMS CORPORATION,
PHI-EXIST.DWG, SEPTEMBER 2000,
"EXISTING SITE CONDITIONS"

FEDERAL CREOSOTE SUPERFUND SITE
MANVILLE, NEW JERSEY
NJPDES/DSW-CATEGORY B4B GPPC PERMIT

SITE PLAN

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE A

501958

TABLE OF CONTENTS

Checklist of Parks and Modules Comprising the NJPDES/DSW General GPPC Permit Authorization

NEW JERSEY POLLUTANT DISCHARGE ELIMINATION SYSTEM

The New Jersey Department of Environmental Protection hereby grants you a NJPDES permit for the facility/activity named in this document. This permit is the regulatory mechanism used by the department to ensure your discharge will not harm the environment. By complying with the terms and conditions specified, you are assuming an important role in protecting New Jersey's valuable water resources. Your acceptance of this permit is an agreement to conform with all of its provisions when constructing, installing, modifying, or operating any facility for the collection, treatment, or discharge of pollutants to waters of the state. If you have any questions about this document, please feel free to contact the department representative listed in the permit cover letter. Your cooperation in helping us protect and safeguard our state's environment is anticipated and appreciated.

PERMIT NUMBER NJ0102709

Permittee	Co-Permittee
GENERAL PERMIT - CATEGORY B4B PER INDIVIDUAL NOTICE OF AUTHORIZATION TRENTON NJ 08625	
Property Owner	**Location of Activity**
NJDEP DIVISION OF WATER QUALIT PO BOX 029 TRENTON NJ 08625	GENERAL PERMIT - CATEGORY B4B PER INDIVIDUAL AUTHORIZATION TRENTON NJ 08625

Current Authorization Covered By This Approval And Previous Authorization	Issuance Date	Effective Date	Expiration Date
B4B:GW PETROLEUM PROD CLEANUP	10/31/1998	12/01/1996	11/30/2003

DSN:

CLASSIFICATION:

LATITUDE:

LONGITUDE:

RECEIVING STREAM:

By Authority of:
COMMISSIONER'S OFFICE

Debra Hammond
DEP AUTHORIZATION
DEBRA HAMMOND, BUREAU CHIEF
BUREAU OF POINT SOURCE PERMITTING REGION 2
DIVISION OF WATER QUALITY

Jeffrey Reading
JEFFREY READING, BUREAU CHIEF
BUREAU OF POINT SOURCE PERMITTING REGION 1
DIVISION OF WATER QUALITY

(Terms, conditions and provisions attached hereto)

GENERAL CONDITIONS FOR NJPDES PERMITS

The permittee shall comply with all conditions set forth in this permit and with all the applicable requirements incorporated into this permit by reference. The permittee is required to comply with the regulations which are in effect as of the effective date of the final permit.

Section A. GENERAL CONDITIONS

1.	Penalties for Violations	N.J.A.C. 7:14-8.1 et seq.
2.	Incorporation by Reference	N.J.A.C. 7:14A-2.3
3.	Toxic Pollutants	N.J.A.C. 7:14A-6.2(a)4i
4.	Duty to Comply	N.J.A.C. 7:14A-6.2(a)1 & (a)4
5.	Duty to Mitigate	N.J.A.C. 7:14A-6.2(a)5 & 11
6.	Inspection and Entry	N.J.A.C. 7:14A-2.11(e)
7	Enforcement Action	N.J.A.C. 7:14A-2.9
8.	Duty to Reapply	N.J.A.C. 7:14A-4.2(e)3
9.	Signatory Requirements for Applications and Reports	N.J.A.C. 7:14A-4.9
10.	Effect of Permit/Other Laws	N.J.A.C. 7:14A-6.2(a)6 & 7 & 2.9(c)
11.	Severability	N.J.A.C. 7:14A-2.2
12.	Administrative Continuation of Permits	N.J.A.C. 7:14A-2.8
13.	Permit Actions	N.J.A.C. 7:14A-2.7(c)
14.	Standard Reopener Clause	N.J.A.C. 7:14A-6.2(a)10
15.	Permit Duration and Renewal	N.J.A.C. 7:14A-2.7(a) & (b)
16.	Consolidation of Permit Process	N.J.A.C. 7:14A-15.5
17.	Confidentiality	N.J.A.C. 7:14A-18.2 & 2.11(g)
18.	Fee Schedule	N.J.A.C. 7:14A-3.1
19.	Treatment Works Approval	N.J.A.C. 7:14A-22 & 23

Section B. OPERATION AND MAINTENANCE

1.	Need to Halt or Reduce not a Defense	N.J.A.C. 7:14A-2.9(b)
2.	Proper Operation and Maintenance	N.J.A.C. 7:14A-6.12

Section C. MONITORING AND RECORDS

1.	Monitoring	N.J.A.C. 7:14A-6.5
2.	Recordkeeping	N.J.A.C. 7:14A-6.6
3.	Signatory Requirements for Monitoring Reports	N.J.A.C. 7:14A-6.9

Section D. REPORTING REQUIREMENTS

1.	Planned Changes	N.J.A.C. 7:14A-6.7
2.	Reporting of Monitoring Results	N.J.A.C. 7:14A-6.8
3.	Noncompliance Reporting	N.J.A.C. 7:14A-6.10 & 6.8(h)
	a. Hotline/Two Hour & Twenty-four Hour Reporting	N.J.A.C. 7:14A-6.10(c) & (d)
	b. Written Reporting	N.J.A.C. 7:14A-6.10(e) &(f) & 6.8(h)
4.	Duty to Provide Information	N.J.A.C. 7:14A-2.11, 6.2(a)14 & 18.1
5.	Schedules of Compliance	N.J.A.C. 7:14A-6.4
6.	Transfer	N.J.A.C. 7:14A-6.2(a)8 & 16.2

Section E. ADDITIONAL CONDITIONS

Operator Certification

Pursuant to N.J.A.C. 7:10A-1.1 et seq., every wastewater "system" not exempt pursuant to N.J.A.C. 7:10A-1.10(b) requires a licensed operator. The operator of a "system" shall meet the requirements of the Department pursuant to the provisions of N.J.A.C. 7:10A-1.1 et seq. and any amendments thereto. The name of the proposed operator, where one is required, shall be submitted to the Department in order that his/her qualifications may be determined prior to initiating operation of the treatment works. Further information regarding this requirement may be obtained from:

NJDEP
Bureau of Revenue
Examinations and Licensing Unit
PO Box 417
Trenton, New Jersey 08625-0417
(609) 777-1012

Operation Restrictions

The operation of a waste treatment or disposal facility shall at no time create: (a) a discharge, except as authorized by the Department in the manner and at the location(s) specified in the Part(s) III of this permit; or (b) any discharge to the waters of the State or any standing or ponded condition for water or waste, except as specifically authorized by a valid NJPDES permit.

Sampling Points

All samples shall be taken at the monitoring points specified in this permit and all effluent samples, unless otherwise specified, shall be taken before the effluent joins or is diluted by any other wastestream, body of water or substance. Monitoring points shall not be changed without notification to and the approval of the Department.

Monitoring and Reporting

The permittee shall report monitoring results on the Discharge Monitoring Report (DMR) forms or other monitoring report forms required by the permit or the Department at the intervals specified in the permit. Monitoring results shall be summarized and reported on the appropriate form following the completed reporting period. If a discharge does not occur during a particular reporting period, the permittee should write "NODI" across the face of the form. Unless otherwise specified or directed, signed copies of these forms shall be submitted postmarked no later than the 25th day of the calendar month following the completed reporting period to the following address:

NJDEP
Bureau of Permit Management
PO Box 029
Trenton, New Jersey 08625-0029
Attn.: Monitoring Reports

Intermittent Discharges (if Applicable)

The permittee is required to provide representative sampling of any regulated intermittent activity pursuant to N.J.A.C. 7:14A-6.5(a). Therefore, although a discharge may occur on an intermittent basis, it does not exempt the permittee from complying with the conditions of the permit. For example, if a permittee has a monthly monitoring and reporting requirement and the discharge occurs three separate times during the month, the permittee should obtain a sample during at least one of the discharge events occurring during the monitoring period. The permittee should report "NODI" on the DMR (or other required form) only if there are no discharge events during the entire reporting period.

Flow Measurements

When flow monitoring is required, appropriate flow measurement devices and methods consistent with accepted engineering/scientific practices shall be selected and used to insure the accuracy and reliability of measurements of the volume of monitored discharges. Unless specified otherwise in this permit, devices shall be installed, calibrated and maintained to insure that the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than +/-10% from the true discharge rates throughout the range of expected discharge volumes. Guidance in selection, installation, calibration and operation of acceptable flow measurement devices can be obtained from the following references:

A. "A Guide to Methods and Standards for the Measurement of Water Flow", U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 421, May 1975, 97 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by SD Catalog No. C13.10:421).

B. "Water Measurement Manual", U.S. Department of Interior, Bureau of Reclamation, Second Edition, Revised Reprint, 1974, 327 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by Catalog No. 127.19/2:W29/2, Stock No. S/N 24003-0027.)

C. "Flow Measurement in Open Channels and Closed Conduits", U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 484, October 1977, 982 pp. (Available in paper copy or microfiche from National Technical Information Service (NTIS), Springfield, VA 22151. Order by NTIS No. PB-273 535/5ST.)

D. "NPDES Compliance Sampling Manual", U.S. Environmental Protection Agency, Office of Water Enforcement, Publication MCD-51, 1977, 140 pp. (Available from the General Services Administration (8FFS), Centralized Mailing Lists Services, Building 41, Denver Federal Center, Denver CO 80225.)

Applicability of Numerical Limitations

If only one analysis for a given parameter is made during any sampling period specified in this permit, the result of such analysis shall be construed as the average value of the parameter, as well as the maximum, for said sampling period. The permittee may take samples and have analysis made by a New Jersey Certified laboratory on additional occasions to those specified in this permit. If so, the average and the maximum values of all analytical results taken during the sampling period shall be reported as the applicable average and maximum values. However, for pH, minimum and maximum values are reported rather than average values.

ADDITIONAL GENERAL CONDITIONS FOR ALL NJPDES DISCHARGE TO SURFACE WATER PERMITS.

1. Permit Conditions Relating to Residuals Management

All preparers of residual shall comply with the following requirements regarding their generation, storage and ultimate management method(s):

A. All permittees shall give written notice to the Department of any planned physical alterations or additions to the permitted facility when the alteration or addition is expected to result in a significant change in the permittee's residual use or disposal practices. This includes, but is not limited to, notification to the Department of additional or different residual use or disposal sites not reported during the permit application process [40 CFR 122.41(l)(1)(iii) and N.J.A.C. 7:14A-6.7].

B. Where applicable, the permittee shall comply with land-based sludge management criteria and shall conform with the requirements for the management of residuals and grit and screenings under [N.J.A.C. 7:14A-6.15(a)]:

1. Section 405 of the Federal Act governing the disposal of sludge from treatment works treating domestic sewage;

2. The Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq., and the Solid Waste Management Rules, N.J.A.C. 7:26;

3. The Sludge Quality Assurance Regulations, N.J.A.C. 7:14-4;

4. The Statewide Sludge Management Plan promulgated pursuant to the Water Quality Planning Act, N.J.S.A. 58:11A-1 et seq., and the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq.; and

5. The provisions concerning disposal of sewage sludge and septage in sanitary landfills set forth at N.J.S.A. 13:1E-42 and the Statewide Sludge Management Plan. Any person who prepares residual that is disposed in a municipal solid waste landfill unit shall ensure that the residual meets the requirements in 40 CFR Part 258 and/or N.J.A.C. 7:26 concerning the quality of residual disposed in a municipal solid waste landfill unit. (That is, passes the Toxicity Characteristic Leaching Procedure and does not contain "free liquids" as defined at N.J.A.C. 7:14A-1.2.)

C. If any applicable standard for residual use or disposal is promulgated under section 405(d)of the Federal Act and Sections 4 and 6 of the State Act and that standard is more stringent than any limitation on the pollutant or practice in the permit, the Department may modify or revoke and reissue the permit to conform to the standard for residual use or disposal [40 CFR 122.44(b)(2) and N.J.A.C. 7:14A-6.3, 20.5 and 6.15(c)].

D. The permittee shall make provisions for storage, or some other approved alternative management strategy, for anticipated downtimes at a primary residual management alternative. The permittee shall not be permitted to store residual beyond the capacity of the structural treatment and storage components of the treatment works. N.J.A.C. 7:14A-20.8(a) and N.J.A.C. 7:26 provide for the temporary storage of residuals for periods not exceeding six months, provided such storage does not cause pollutants to enter surface or ground waters of the State. The storage of residual for more than six months is not authorized under this permit. However, this prohibition does not apply to residual that remains on the land for longer than six months when the person who prepares the residual demonstrates that the land on which the residual remains is not a surface disposal site or landfill. The demonstration shall explain why residual must remain on the land for longer than six months prior to final use or disposal, discuss the approximate time period during which the residual shall be used or disposed and provide documentation of ultimate residual management arrangements. Said demonstration shall be in writing, be kept on file by the person who prepares residual, and submitted to the Department upon request.

E. The permittee shall comply with the appropriate adopted District Solid Waste or Sludge Management Plan (which by definition in N.J.A.C. 7:14A-1.2 includes Generator Sludge Management Plans), unless otherwise specifically exempted by the Department. For domestic treatment works with a permitted flow equal to or greater than 1.0 MGD, pursuant to the Statewide Sludge Management Plan, should the permittee expand and/or upgrade wastewater treatment facilities, and in absence of a District Sludge Management Plan, the permittee shall develop a plan for management of residuals projected to be produced by the upgraded and/or expanded facilities at design (maximum permitted) flow or projected flow in ten (10) years, whichever is greater. The plan for the upgraded and/or expanded treatment facilities shall be submitted in conformance with the requirements of N.J.S.A. 13:1E-45 to the Bureau of Pretreatment and Residuals at the address cited below prior to implementation of the expanded or upgraded facilities:

Division of Water Quality
Bureau of Pretreatment and Residuals
PO Box 29
Trenton, New Jersey 08625

All plans approved by the Department are required to undergo a biennial review by the generator. If a modification is found to be necessary, an update must be submitted. Where it is determined during biennial review that no changes are necessary, the generator must submit a resolution stating that the plan has been reviewed and has been determined to require no amendments.

F. When a person who prepares bulk residual provides the bulk residual to a person who applies the bulk residual to the land, the person who prepares the bulk residual shall provide the Department and the person who applies the bulk residual notice and necessary information to comply with the requirements of N.J.A.C. 7:14A-20. This shall include, but not be limited to, the applicable recordkeeping requirements and certification statements of 40 CFR 503.17 as referenced at N.J.A.C 7:14A-20.7(j). [N.J.A.C. 7:14A-20.7(b)1vi.]

G. When a person who prepares residual provides residual to another person who prepares the residual, the person who provides the residual shall provide the Department and the person who receives the residual notice and necessary information to comply with N.J.A.C. 7:14A-20. [N.J.A.C. 7:14A-20.7(b)1vii.]

H. Any person who prepares bulk residual in New Jersey that is applied to land in a State other than New Jersey shall comply with the requirement at N.J.A.C. 7:14A-20.7(b)1.ix and/or 20.7(b)1.x, as applicable, to provide written notice to the Department and to the permitting authority for the State in which the bulk residual is proposed to be applied.

2. Monitoring and Reporting

In addition to the monitoring and reporting requirements in Part I, a duplicate signed copy of all other monitoring reports required from the permittee including the DMRs shall be submitted to the DRBC **(only for dischargers to the Delaware River Basin)**, and the ISC **(only for dischargers to the Interstate Sanitation Commission district)** at the following addresses:

Delaware River Basin Commission
P.O. Box 7360
West Trenton, New Jersey 08628
Attn: Executive Director

Interstate Sanitation Commission
311 West 43rd Street
New York, New York 10036
Attn: Director/Chief Engineer

3. Schedule of Maintenance

Any maintenance of facilities, which might necessitate unavoidable interruption of operation and degradation of effluent quality, shall be scheduled during non-critical water quality periods and carried out in a manner approved by the Department.

4. Emergency Plans

Consistent with N.J.A.C. 7:14A-6.12, an emergency plan shall be included as part of the Operation and Maintenance Manual.

5. Stormwater Only Discharges (Not applicable to Sanitary Surface Water Discharges/Category A)

Stormwater shall be sampled during the first precipitation event of the monitoring period which causes a discharge at the site during working hours, unless otherwise directed in the permit. Stormwater monitoring should not necessarily be conducted at 30-day intervals. Therefore, it is incorrect for the permittee to choose a sampling date which remains the same every month, and report "NODI" on the DMR if it does not rain on that particular day.

6. Upset and Bypasses/Non-compliance

All permittees shall report to the Department (and receiving DTW, if applicable) any permit non-compliance in accordance with the requirements of N.J.A.C. 7:14A-6.10.

PART III
LIMITS AND MONITORING REQUIREMENTS

A. 001D REMEDIATION EFFLUENT

Location Description

The facility is authorized to discharge treated dewatered groundwater into the Millstone River, classified as FW2-NT(C2), via a storm sewer at Lat. 40*32'28" & Lon. 74*34'42". The permittee shall sample all parameters in this table at a " twice/week " basis. Therefore, this narrative requirement of " twice/week " supercedes the sampling frequency as specified in this table.

Discharge Categories

General Permit GW Petro Prod Cleanup

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

Parameter	Sample Point	Limit	Statistical Base	Sampling Frequency	Sample Type	Monitoring Period	Phase	Quantification Limit
Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	REPORT GPD	Monthly Average	1 / Month	Grab	January thru December	Final	
Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	REPORT GPD	Daily Maximum	1 / Month	Grab	January thru December	Final	
pH • polyethylene 150.1	Effluent Gross Value	6.0 SU	Monthly Minimum	1 / Quarter	Grab	January thru December	Final	
pH -	Effluent Gross Value	9.0 SU	Monthly Maximum	1 / Quarter	Grab	January thru December	Final	
Solids, Total Suspended • 160.2	Effluent Gross Value	REPORT MG/L	Monthly Average	1 / Month	Grab	January thru December	Final	
Solids, Total Suspended •	Effluent Gross Value	40 MG/L	Daily Maximum	1 / Month	Grab	January thru December	Final	
Petroleum Hydrocarbons • 418.1	Effluent Gross Value	10 MG/L	Monthly Average	1 / Quarter	Grab	January thru December	Final	
Petroleum Hydrocarbons •	Effluent Gross Value	15 MG/L	Daily Maximum	1 / Quarter	Grab	January thru December	Final	
Carbon, Tot Organic (TOC) • 415.1	Effluent Gross Value	REPORT MG/L	Monthly Average	1 / Month	Grab	January thru December	Final	
Carbon, Tot Organic (TOC) •	Effluent Gross Value	20 MG/L	Daily Maximum	1 / Month	Grab	January thru December	Final	
Chromium, Total (as Cr) • 200.7	Effluent Gross Value	50 UG/L	Monthly Average	1 / Month	Grab	January thru December	Final	10 Rec Quant Level
Chromium, Total (as Cr) •	Effluent Gross Value	100 UG/L	Daily Maximum	1 / Month	Grab	January thru December	Final	10 Rec Quant Level
Copper, Total (as Cu) • 200.7	Effluent Gross Value	50 UG/L	Monthly Average	1 / Month	Grab	January thru December	Final	10 Rec Quant Level

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Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

Parameter	Sample Point	Limit	Statistical Base	Sampling Frequency	Sample Type	Monitoring Period	Phase	Quantification Limit
Copper, Total (as Cu)	Effluent Gross Value	100 UG/L	Daily Maximum	1 / Month	Grab	January thru December	Final	10 Rec Quant Level
Nickel, Total (as Ni)	Effluent Gross Value	72 UG/L	Monthly Average	1 / Month	Grab	January thru December	Final	10 Rec Quant Level
Nickel, Total (as Ni)	Effluent Gross Value	144 UG/L	Daily Maximum	1 / Month	Grab	January thru December	Final	10 Rec Quant Level
Lead, Total Recoverable	Effluent Gross Value	37 UG/L	Monthly Average	1 / Month	Grab	January thru December	Final	10 Rec Quant Level
Lead, Total Recoverable	Effluent Gross Value	79 UG/L	Daily Maximum	1 / Month	Grab	January thru December	Final	10 Rec Quant Level
Fluoranthene 610	Effluent Gross Value	25 UG/L	Monthly Average	1 / Month	Grab	January thru December	Final	10 Rec Quant Level
Fluoranthene	Effluent Gross Value	68 UG/L	Daily Maximum	1 / Month	Grab	January thru December	Final	10 Rec Quant Level
Fluorene 610	Effluent Gross Value	22 UG/L	Monthly Average	1 / Month	Grab	January thru December	Final	10 Rec Quant Level
Fluorene	Effluent Gross Value	59 UG/L	Daily Maximum	1 / Month	Grab	January thru December	Final	10 Rec Quant Level
Phenanthrene 610	Effluent Gross Value	22 UG/L	Monthly Average	1 / Month	Grab	January thru December	Final	10 Rec Quant Level
Phenanthrene	Effluent Gross Value	59 UG/L	Daily Maximum	1 / Month	Grab	January thru December	Final	10 Rec Quant Level
Pyrene 610	Effluent Gross Value	25 UG/L	Monthly Average	1 / Month	Grab	January thru December	Final	20 Rec Quant Level
Pyrene	Effluent Gross Value	67 UG/L	Daily Maximum	1 / Month	Grab	January thru December	Final	20 Rec Quant Level
Benzo(a)anthracene 610	Effluent Gross Value	REPORT UG/L	Monthly Average	1 / Month	Grab	January thru December	Final	
Benzo(a)anthracene	Effluent Gross Value	10 UG/L	Daily Maximum	1 / Month	Grab	January thru December	Final	10 Rec Quant Level
Naphthalene 610	Effluent Gross Value	22 UG/L	Monthly Average	1 / Month	Grab	January thru December	Final	8 Rec Quant Level
Naphthalene	Effluent Gross Value	59 UG/L	Daily Maximum	1 / Month	Grab	January thru December	Final	8 Rec Quant Level
Methyl tert-butyl Ether 624	Raw Sew/influent	REPORT UG/L	Monthly Average	1 / Month	Grab	January thru December	Final	
Methyl tert-butyl Ether	Raw Sew/influent	REPORT UG/L	Daily Maximum	1 / Month	Grab	January thru December	Final	

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Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

Parameter	Sample Point	Limit	Statistical Base	Sampling Frequency	Sample Type	Monitoring Period	Phase	Quantification Limit
Methyl tert-butyl Ether	Effluent Gross Value	REPORT UG/L	Monthly Average	1 / Month	Grab	January thru December	Final	
Methyl tert-butyl Ether	Effluent Gross Value	70 UG/L	Daily Maximum	1 / Month	Grab	January thru December	Final	
Methyl tert-butyl Ether	Percent Removal	85 PERCENT	Monthly Minimum	1 / Month	Calculated	January thru December	Final	
Benzene	Effluent Gross Value	REPORT UG/L	Monthly Average	1 / Month	Grab	January thru December	Final	7 Rec Quant Level
Benzene	Effluent Gross Value	7 UG/L	Daily Maximum	1 / Month	Grab	January thru December	Final	7 Rec Quant Level
Tetrachloroethylene	Effluent Gross Value	REPORT UG/L	Monthly Average	1 / Month	Grab	January thru December	Final	
Tetrachloroethylene	Effluent Gross Value	16 UG/L	Daily Maximum	1 / Month	Grab	January thru December	Final	
Tertiary Butyl Alcohol (TBA)	Effluent Gross Value	REPORT UG/L	Monthly Average	1 / Month	Grab	January thru December	Final	
Tertiary Butyl Alcohol (TBA)	Effluent Gross Value	REPORT UG/L	Daily Maximum	1 / Month	Grab	January thru December	Final	
2,4-Dimethylphenol	Effluent Gross Value	18 UG/L	Monthly Average	1 / Month	Grab	January thru December	Final	
2,4-Dimethylphenol	Effluent Gross Value	36 UG/L	Daily Maximum	1 / Month	Grab	January thru December	Final	
Phenol Single Compound	Effluent Gross Value	REPORT UG/L	Monthly Average	1 / Month	Grab	January thru December	Final	10 Rec Quant Level
Phenol Single Compound	Effluent Gross Value	26 UG/L	Daily Maximum	1 / Month	Grab	January thru December	Final	10 Rec Quant Level

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PART IV

SPECIFIC REQUIREMENTS: NARRATIVE

Notes and Definitions

A. Footnotes

1. Footnotes.

   a. If testing for a parameter is not required for the monitoring period, the permittee is required to report "CODE=N".

   b. Should the permittee's wastewater data indicate that a pollutant is unquantified (<) at an analytical level which is greater that the Quantification level specified in PART III, the results will be evaluated by the Department to verify that all QA/QC procedures were adhered to by the laboratory. If QA/QC procedures were not followed, the results will be considered a "reporting violation" as opposed to an effluent violation. If QA/QC procedures were adhered to by the laboratory, no action would be taken on the unquantified or non-detectable value.

   c. All analyses required by this permit shall be performed by a New Jersey Certified Laboratory.

   d. The permittee shall perform all water / wastewater analyses in accordance with the analytical test procedures specified in 40 CFR 136 unless other test procedures have been approved by the Department in writing or as otherwise specified in the permit.

   e. If the effluent MTBE level is less than or equal to 70 ug/l during a calendar month, the 85% MTBE minimum percent removal limtation does not apply. If the MTBE minimum percent removal limitation does not apply, the permittee shall report "Code=N" on its DMR under MTBE percent removal. If the effluent MTBE level is greater than 70 ug/l for a calendar month, an 85% MTBE minimum percent removal limitation does apply. The permittee shall report the minimum percent removal value achieved during that calendar month on its DMR under MTBE minimum percent removal.

   f. Analysis for total recoverable lead shall follow the sample preparation procedures contained in the Method 200.2 "Sample Preparation Procedure for Spectrochemical Determination of Total Recoverable Elements".

   g. The permittee shall use EPA Method 624 in analyzing methyl tert butyl ether and tert butyl alcohol.

   h. Influent shall be sampled at a point prior to any treatment by the permittee's treatment units.

General Permit GW Petro Prod Cleanup

A. SPECIAL CONDITIONS

1. Discharge Restrictions

a. During the period beginning EDPA (Effective Date of Permit Authorization) and lasting through the expiration date of the master general permit, the permittee is authorized to discharge treated groundwater from the outfall(s) specified in Part III according to the limitations and conditions contained in the permittee's authorization.

b. There shall be no discharge of floating solids or visible foam in other than trace amounts pursuant to N.J.A.C. 7:14A-12.6.

c. There shall be no visible sheen pursuant to N.J.A.C. 7:14A-12.8(c)1.

d. There should be no objectionable odor.

e. The treatment works shall operate at the optimal average design flow rate for maximum groundwater clean-up.

f. No backwash from any treatment unit(s) for maintenance purposes or any other reasons shall be discharged through the authorized outfall(s).

g. The permittee shall not attain any effluent limitations by dilution pursuant to N.J.A.C. 7:14A-6.2. Specifically, the permittee shall not pump from a recovery well and divert such waters to the treatment system for the purposes of diluting groundwater from other contaminated recovery wells.

h. Samples taken in compliance with the specified monitoring requirements shall be taken at the discharge outfall(s) specified in Part III of this permit authorization at the nearest accessible point after final treatment but prior to actual discharge and shall be reported monthly.

2. Toxic Pollutant Reopener Clause

a. Pursuant to N.J.A.C. 7:14A-6.2(a)(10)(iii), the Department may modify or revoke and reissue any permit to incorporate limitations or requirements to control the discharge of toxic pollutants, including whole effluent, chronic and acute toxicity requirements, chemical specific limitations or toxicity reduction requirements, as applicable.

3. Use of Chemical Addition Agents

a. If a permittee proposes addition of any chemical or biofouling agents in its treatment system in order to enhance treatment effectiveness and system performance, the permittee must obtain permission from the Department in writing prior to use of such compounds.

b. The permittee shall submit a letter to the Department describing the use of such chemical addition agents, including information such as dosage rates and frequency of dosage, and shall also include a material safety data sheet for the product(s).

c. This letter shall be submitted to the appropriate Bureau of Point Source Permitting which issued the individual authorization where the address is included on the cover letter. The Department will then evaluate the submittal and notify the permittee in writing as to whether the compound can be utilized under the conditions of the individual authorization under the GPPC permit renewal. Please note that N.J.A.C. 7:14A-22.4(a)7 does not require a treatment works approval (TWA) modification for chemical addition where it is used for purposes of improving treatment system performance.

4. Treatment Works Approval Application

a. The permittee shall submit a completed Treatment Works Approval (TWA) application for any existing or proposed treatment units unless such a submittal has already been made in accordance with N.J.A.C. 7:14A-22. The completed TWA submittal shall be sent to the Chief of the Bureau of Administration and Management, Municipal Finance and Construction Element, Division of Water Quality, P.O. Box 425, Trenton, NJ 08625.

b. Although treatment may be necessary to meet the effluent limits for a short term project (i.e. dewatering project, pump test), the applicant is not required to obtain a Treatment Works Approval (TWA), pursuant to N.J.A.C. 7:14A-22.4(b)4. N.J.A.C. 7:14A-22.4(b)4. alleviates the requirement of a TWA for mobile treatment works to be specifically utilized for the treatment of water in relation to a short-term pump test or dewatering associated with an underground storage tank project authorized under a NJPDES GPPC permit.

5. Operation of Treatment Works

a. If subsequent to the issuance of this permit the permittee proposes to install treatment, the permittee shall submit to the Department, for approval of the treatment works and determination of the operator's appropriate license classification, a complete application for Treatment Works Approval pertaining to the proposed treatment works installation/modification pursuant to N.J.A.C. 7:14A-22.8.

b. A Treatment Works Approval is required to be obtained from the Department prior to beginning construction.

c. The permittee shall obtain, the services of a licensed operator of the appropriate classification in accordance with the "Licensing of Water Supply and Wastewater Treatment System Operators", N.J.A.C 7:10A-1 et seq., which became effective February 3, 1997, for any treatment works installed.

6. Third Party Storm Sewer Systems

a. If the permittee proposes to discharge or discharges through an off-site public or private storm drainage system, please note that this GPPC permit renewal to discharge does not exempt, nor shall be construed to exempt, the permittee from compliance with rules, regulations, policies, and/or laws lodged in any agency or subdivision of the state having legal jurisdiction over the storm sewer system proposed for use as a wastewater conveyance.

7. Temporary or Permanent Cessation of Discharge to Surface Waters

a. If a permittee temporarily discontinues its discharge for any period of time, the permittee shall document the reasons for such temporary cessation in a letter or on Form T-VWX-014 entitled "Monitoring Report - Transmittal Sheet". This letter or form shall be included in the permittee's monthly discharge monitoring report for the month in which the cessation in discharge activity occurred.

b. If the permittee permanently discontinues its discharge to surface waters for 30 days or more the appropriate Regional Bureau of Water and Compliance Enforcement shall be notified:

i. NORTHERN BUREAU (Counties of Bergen, Essex, Hudson, Hunterdon, Morris, Passaic, Somerset, Sussex and Warren) - (973) 299-7592

ii. CENTRAL REGION (Counties of Mercer, Middlesex, Monmouth, Ocean and Union) - (609) 584-4200

iii. SOUTHERN REGION (Counties of Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester and Salem) - (609) 968-2640

8. Revocation of an Individual Authorization under the GPPC Permit

a. If the Department's Site Remediation Program has approved termination of a groundwater remediation discharge to surface water and, as a result, the permittee has ceased its dicharge to surface water, the permittee can request revocation of its individual authorization under the GPPC permit. The permittee can obtain the necessary revocation forms by contacting the Department's Bureau of Permit Management at (609) 984-4428 or by accessing the Department's World Wide Web Home Page at http://www.state.nj.us/dep/dwq. The permittee can also contact the appropriate Regional Enforcement Office for further guidance on closure proceedings.

b. Upon receipt of an administratively complete revocation request the Department will verify with the appropriate Regional Enforcement Office that the discharge has ceased, the treatment works has undergone closure in conformance with N.J.A.C. 7:14A-23.34. The Department will then revoke such individual authorization which includes a copy of the individual authorization page showing the revocation date of the individual authorization. The permittee is no longer required to submit discharge monitoring reports for the discharge after the revocation date has passed.

New Jersey Department of Environmental Protection
Division of Water Quality

MONITORING REPORT SUBMITTAL FORM

NJPDES PERMIT NUMBER: **NJG0139050**
MONITORING REPORT TYPE: **Surface Water Discharge M**
MONITORING PERIOD: **7/1/2001 - 7/31/2001**

MONITORED LOCATION: **001D Remediation effluent**
MONITORED LOCATION GROUP: **N/A**
REGION / COUNTY: **Northern / Somerset County**

REPORT RECIPIENT:
Richard Puvogal, RPM
USEPA
290 BROADWAY, 19TH FLOOR
NEW YORK, NY 10007-1866

LOCATION OF ACTIVITY:
FEDERAL CREOSOTE SUPERFUND SITE
172-216 E CAMPLAIN RD
MANVILLE, NJ 08835

CHECK IF APPLICABLE: ☐ **No Discharge this Monitoring Period**

MONITORING REPORT COMMENTS: _____

individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. See 18 U.S.C. § 1319.

(Penalties under these statutes may include fines up to $10,000 and or a maximum imprisonment of between 6 months and 5 years.)

NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	**SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT**
AREA CODE / TELEPHONE NUMBER	**DATE (MONTH / DAY / YEAR)**

501974

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0139050	001D Remediation effluent	7/1/2001 TO 7/31/2001	FEDERAL CREOSOTE SUPERFUND SITE

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant 50050 1 Effluent Gross Value	SAMPLE MEASUREMENT			GPD	******	******	******	******			
	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX		[illegible]	[illegible]	[illegible]			1/Month	GRAB
pH 00400 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******		SU			
	PERMIT REQUIREMENT	[illegible]	[illegible]		6.0 01MOMN	[illegible]	9.0 01MOMX			1/Quarter	GRAB
Solids, Total Suspended 00530 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			MG/L			
	PERMIT REQUIREMENT	[illegible]	[illegible]		[illegible]	REPORT 01MOAV	40 01DAMX			1/Month	GRAB
Petroleum Hydrocarbons 00551 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			MG/L			
	PERMIT REQUIREMENT	[illegible]	[illegible]		[illegible]	10 01MOAV	15 01DAMX			1/Quarter	GRAB
Carbon, Tot Organic (TOC) 00680 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			MG/L			
	PERMIT REQUIREMENT	[illegible]	[illegible]		[illegible]	REPORT 01MOAV	20 01DAMX			1/Month	GRAB
Chromium, Total (as Cr) 01034 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	[illegible]	[illegible]		[illegible]	50 01MOAV	100 01DAMX			1/Month	GRAB
Copper, Total (as Cu) 01042 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	[illegible]	[illegible]		[illegible]	60 01MOAV	100 01DAMX			1/Month	GRAB
Nickel, Total (as Ni) 01067 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	[illegible]	[illegible]		[illegible]	72 01MOAV	124 01DAMX			1/Month	GRAB

501975

Comments:

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0139050	001D Remediation effluent	7/1/2001 TO 7/31/2001	FEDERAL CREOSOTE SUPERFUND SITE

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Lead, Total Recoverable 01114 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT					37 01MOAV	79 01DAMX			1/Month	GRAB
Fluoranthene 34376 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT					25 01MOAV	68 01DAMX			1/Month	GRAB
Fluorene 34381 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT					22 01MOAV	59 01DAMX			1/Month	GRAB
Phenanthrene 34461 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT					22 01MOAV	59 01DAMX			1/Month	GRAB
Pyrene 34469 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT					25 01MOAV	67 01DAMX			1/Month	GRAB
Benzo(a)anthracene 34526 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT					REPORT 01MOAV	10 01DAMX			1/Month	GRAB
Naphthalene 34696 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT					22 01MOAV	59 01DAMX			1/Month	GRAB
Methyl tert-butyl Ether 22417 G Raw Sew/Influent	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT					REPORT 01MOAV	REPORT 01DAMX			1/Month	GRAB

501976

Comments:

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0139050	001D Remediation effluent	7/1/2001 TO 7/31/2001	FEDERAL CREOSOTE SUPERFUND SITE

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Methyl tert-butyl Ether 22417 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	70 01DAMX			1/Month	GRAB
Methyl tert-butyl Ether 22417 K Percent Removal	SAMPLE MEASUREMENT	******	******	******		******	******	PERCENT			
	PERMIT REQUIREMENT	******	******		85 01MOAVMN	******	******			1/Month	CALCTD
Benzene 34030 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	7 01DAMX			1/Month	GRAB
Tetrachloroethylene 34475 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	16 01DAMX			1/Month	GRAB
Tertiary Butyl Alcohol (TBA) "TBA" 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX			1/Month	GRAB
2,4-Dimethylphenol 34606 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	18 01MOAV	36 01DAMX			1/Month	GRAB
Phenol Single Compound 34694 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	26 01DAMX			1/Month	GRAB
Lab Certification # 99999 99 Lab	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT	REPORT Lab W	REPORT Lab W		REPORT Lab W	REPORT Lab W	REPORT Lab W			Not Applic	NOTAP

501977

Comments:

Appendix I

501978

EAST CAMPLAIN ROAD

ASPHALT PATCH

GAS SERVICE LINE STUBBED BY UTILITY COMPANY (TYPICAL)

SANITARY SEWER

UP NO. 61490 MV

UP NO. 61491 MV

GV

WV

CONCRETE SIDEWALK

TOP OF WALL = 45.2'

TOP OF WALL = 44.7'

CONCRETE CURB AND GUTTER

END NEW CURB AND GUTTER

NEW CONCRETE CURB AND GUTTER

NEW CONCRETE SIDEWALK

REMAINING SHEET PILE WALL

END NEW CONCRETE SIDEWALK

ABANDONED WATER SERVICE LINE (TYPICAL)

ABANDONED SANITARY SERVICE LINE (TYPICAL)

GAS METER

EXISTING RESIDENCE

10+00 AS-BUILT CROSS SECTION BASELINE 'A' 10+50 11+00 11+50 12+00 12+50 13+00

10+00 AS-BUILT CROSS SECTION BASELINE 'B' 10+50 11+00 11+50 12+00 12+50 13+00

NEW GRASS

BLOCK 315
LOT 43
172 E. CAMPLAIN RD.

BLOCK 315
LOT 41
186 E. CAMPLAIN RD.

BLOCK 315
LOT 44
166 E. CAMPLAIN RD.

10+00 AS-BUILT CROSS SECTION BASELINE 'C' 10+50 11+00 11+50 12+00 12+50 13+00

BLOCK 315
LOT 42
180 E. CAMPLAIN RD.

BLOCK 315
LOT 40
192 E. CAMPLAIN RD.

10+00 AS-BUILT CROSS SECTION BASELINE 'D' 10+50 11+00 11+50 12+00 12+50 13+00

10+00 AS-BUILT CROSS SECTION BASELINE 'E' 10+50 11+00 11+50 12+00 12+50 13+00

New 4" Tree

NEW PINE ROW

NEW 6' CHAIN LINK FENCE

New 4" Tree

New 5" Tree

38.6' 37.9' 37.9' 38.2' 38.1' 38.3' 38.2' 38.3' 38.5' 38.5' 38.4' 38.4' 38.2' 38.1' 37.9' 37.5' 37.4' 37.3' 37.3' 37.3' 37.3' 36.7' 36.6' 36.3' 37.3' 37.4' 37.2' 37.2' 37.3' 37.8' 37.7' 37.4'

APPROXIMATELY 1400' TO MILE MARKER 57

LIMIT OF SEEDING

TOP OF CUT BEAM ELEVATION (TYPICAL)

APPROXIM TO MILE

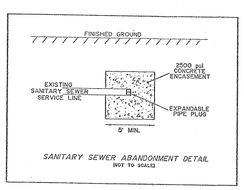
LEGEND

- 38 — FINAL AS-BUILT CONTOURS
- PROPERTY LINES
- CURB LINE
- X—X CHAIN LINK/WIRE FENCES
- W UNDERGROUND WATER LINE
- G UNDERGROUND GAS LINE
- WV WATER VALVE
- GV GAS VALVE
- FIRE HYDRANT
- TREES

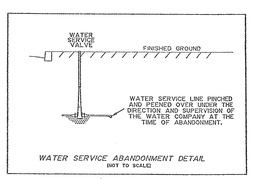
NOTE: NOT ALL FEATURES IN THE LEGEND MAY APPEAR ON THIS MAP.

NOTE

THE STEEL I-BEAMS (WI2X53) ALONG THE SOUTHERLY END OF THE EXCAVATION WERE ORIGINALLY 53' LONG. THE INSTALLATION PROCEDURE WAS TO HAVE THEM EMBEDDED 5' +/- INTO BED ROCK AND LEFT 5' ABOVE GRADE DURING CONSTRUCTION. AFTER CONSTRUCTION I-BEAMS WERE CUT OFF 2' BELOW GRADE, PER CSX RAIL AGREEMENT, LEAVING APPROXIMATELY 30' OF THE ORIGINAL BEAM IN PLACE. THE TOP OF THE CUT BEAM ELEVATION IS SHOWN HEREON.



SANITARY SEWER ABANDONMENT DETAIL
(NOT TO SCALE)



WATER SERVICE ABANDONMENT DETAIL
(NOT TO SCALE)

NORTH
NEW JERSEY STATE PLANE

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

501979

EPA

US Army Corps of Engineers

FINAL AS-BUILT LAGOON 'B'

172, 180, 186 AND 192 E. CAMPLAIN ROAD
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

LAGOON 'B' Sheet 1 of 7

5-2-03

NORTH
NEW JERSEY STATE PLANE

GAS SERVICE LINE
STUBBED BY UTILITY
COMPANY (TYPICAL)

EAST CAMPLAIN ROAD

SANITARY SEWER

UP NO.
61491 MV

UP NO.
61492 MV

WV

UP NO.
61493 MV

END NEW CURB AND GUTTER

NEW CONCRETE CURB AND GUTTER

NEW CONCRETE SIDEWALK

CONCRETE SIDEWALK

END NEW
CONCRETE SIDEWALK

ABANDONED WATER
SERVICE LINE
(TYPICAL)

ABANDONED SANITARY
SERVICE LINE
(TYPICAL)

13+50 14+00 14+50 15+00 15+50 AS-BUILT CROSS SECTION 16+00 16+25
BASELINE 'A'

13+50 14+00 14+50 NEW GRASS 15+00 15+50 AS-BUILT CROSS SECTION 16+00 16+25
BASELINE 'B'

36" RCP
STORM SEWER

BLOCK 315
LOT 39
198 E. CAMPLAIN RD.

BLOCK 315
38
204 E. CAMPLAIN RD.

BLOCK 315
LOT 37
210 E. CAMPLAIN RD.

BLOCK 315
LOT 36
216 E. CAMPLAIN RD.

BLOCK 315
LOT 35

13+50 14+00 14+50 15+00 15+50 AS-BUILT CROSS SECTION 16+00 16+25
BASELINE 'C'

13+50 14+00 14+50 15+00 15+50 AS-BUILT CROSS SECTION 16+00 16+25
BASELINE 'D'

New 5" Tree

New 4" Tree

13+50 14+00 14+50 15+00 15+50 NEW PINE ROW 16+00 AS-BUILT CROSS SECTION BASELINE 'E' 16+25

NEW 6' CHAIN LINK FENCE

37.8' 37.7' 37.4' 37.1' 37.2' 37.3' 37.2' 36.8' 'E' INLET GR 39.92 INV 31.42 37.4' 37.2' 36.9' 37.3' 37.2' 37.4' 37.9' 37.5' 37.5' 38.2' 38.4' 38.3' 36.9' 36.9' 36.2' 37.8' 37.5' 37.2' 37.2' 37.2' 37.6' 37.4' 37.7' 37.3' 37.5' 37.6' 37.6' 37.6'

APPROXIMATELY 1085'
TO MILE MARKER 57

LIMIT OF SEEDING

TOP OF CUT
BEAM ELEVATION
(TYPICAL)

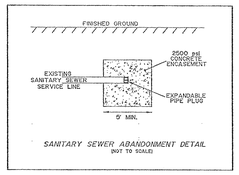
LEGEND

38	FINAL AS-BUILT CONTOURS
	PROPERTY LINES
	CURB LINE
X X	CHAIN LINK/WIRE FENCES
W	UNDERGROUND WATER LINE
G	UNDERGROUND GAS LINE
WV	WATER VALVE
GV	GAS VALVE
	FIRE HYDRANT
	TREES

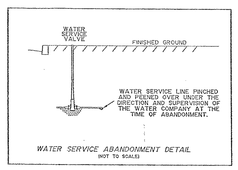
NOTE: NOT ALL FEATURES IN THE LEGEND MAY APPEAR ON THIS MAP.

NOTE

THE STEEL I-BEAMS (W12X53) ALONG THE SOUTHERLY END OF THE EXCAVATION WERE ORIGINALLY 53' LONG. THE INSTALLATION PROCEDURE WAS TO HAVE THEM EMBEDDED 5' +/- INTO BED ROCK AND LEFT 5' ABOVE GRADE DURING CONSTRUCTION. AFTER CONSTRUCTION I-BEAMS WERE CUT OFF 2' BELOW GRADE, PER CSX RAIL AGREEMENT, LEAVING APPROXIMATELY 30' OF THE ORIGINAL BEAM IN PLACE. THE TOP OF THE CUT BEAM ELEVATION IS SHOWN HEREON.



SANITARY SEWER ABANDONMENT DETAIL
(NOT TO SCALE)



WATER SERVICE ABANDONMENT DETAIL
(NOT TO SCALE)

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

501980

EPA

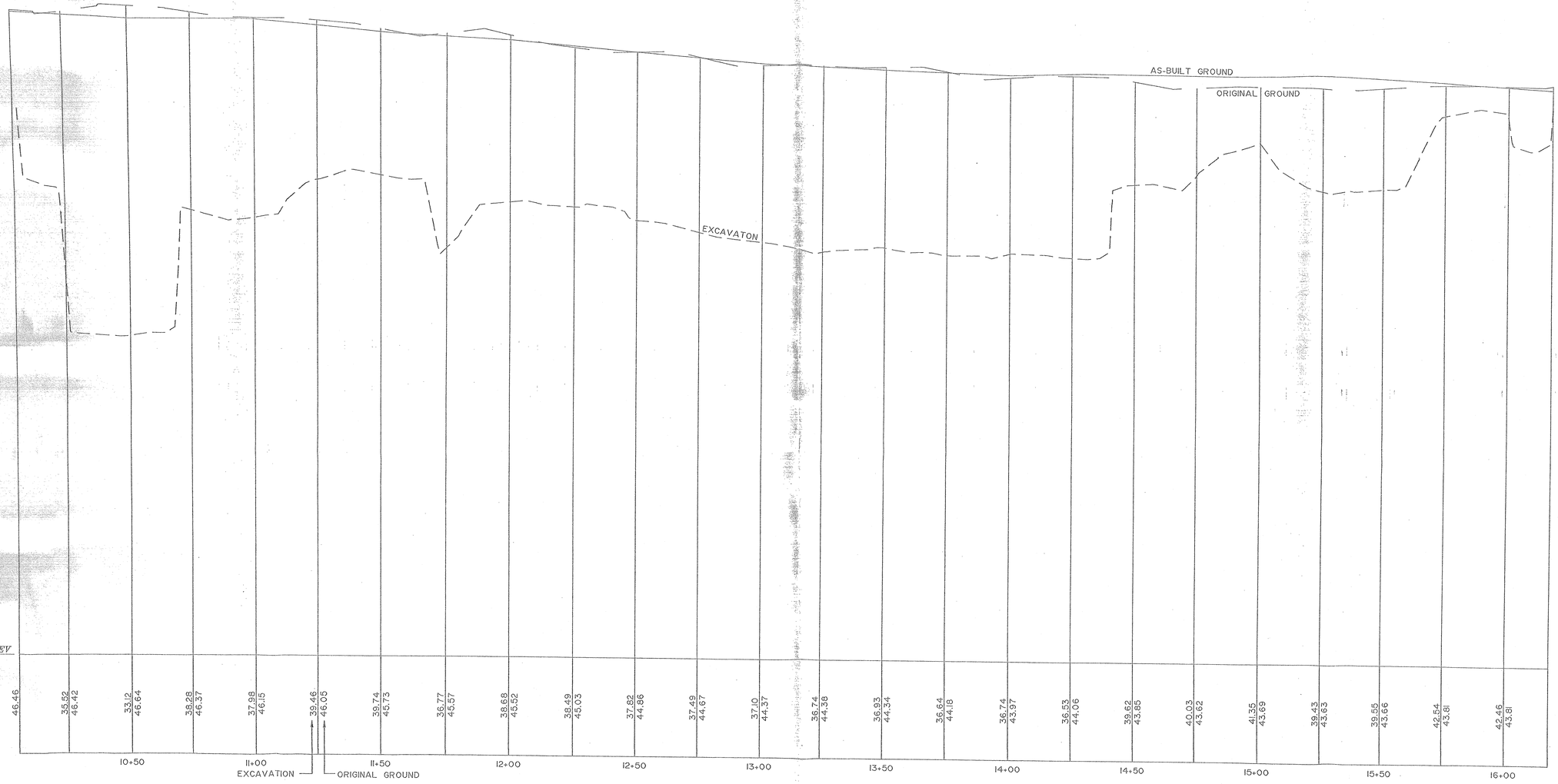
US Army Corps
of Engineers

FINAL AS-BUILT LAGOON 'B'

198, 204, 210 AND 216 E. CAMPLAIN ROAD
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.

LAGOON 'B' Sheet 2 of 7

5-2-01



LAGOON 'B'
EXCAVATION CROSS SECTION 'A'
SCALE: Horiz. 1" = 20'
Vert. 1" = 2'

501981

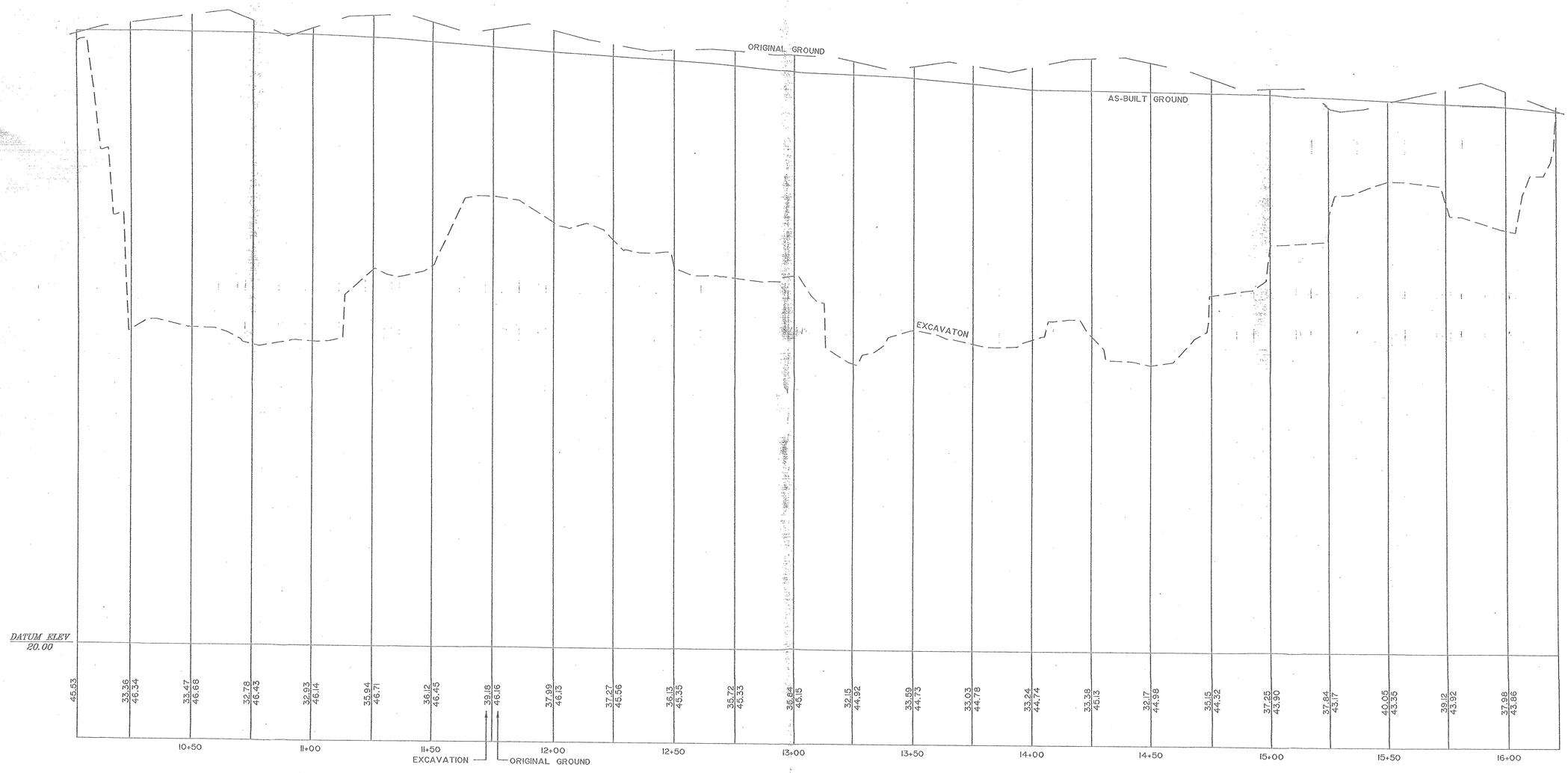
EPA

US Army Corps
of Engineers

FINAL AS-BUILT LAGOON 'B'
CROSS SECTION 'A'
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

LAGOON 'B' Sheet 3 of 7

5-2-03



LAGOON 'B'
EXCAVATION CROSS SECTION 'B'
SCALE: Horiz. 1" = 20'
Vert. 1" = 2'

501982

EPA

US Army Corps
of Engineers

FINAL AS-BUILT LAGOON 'B'
CROSS SECTION 'B'
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

LAGOON 'B' Sheet 4 of 7

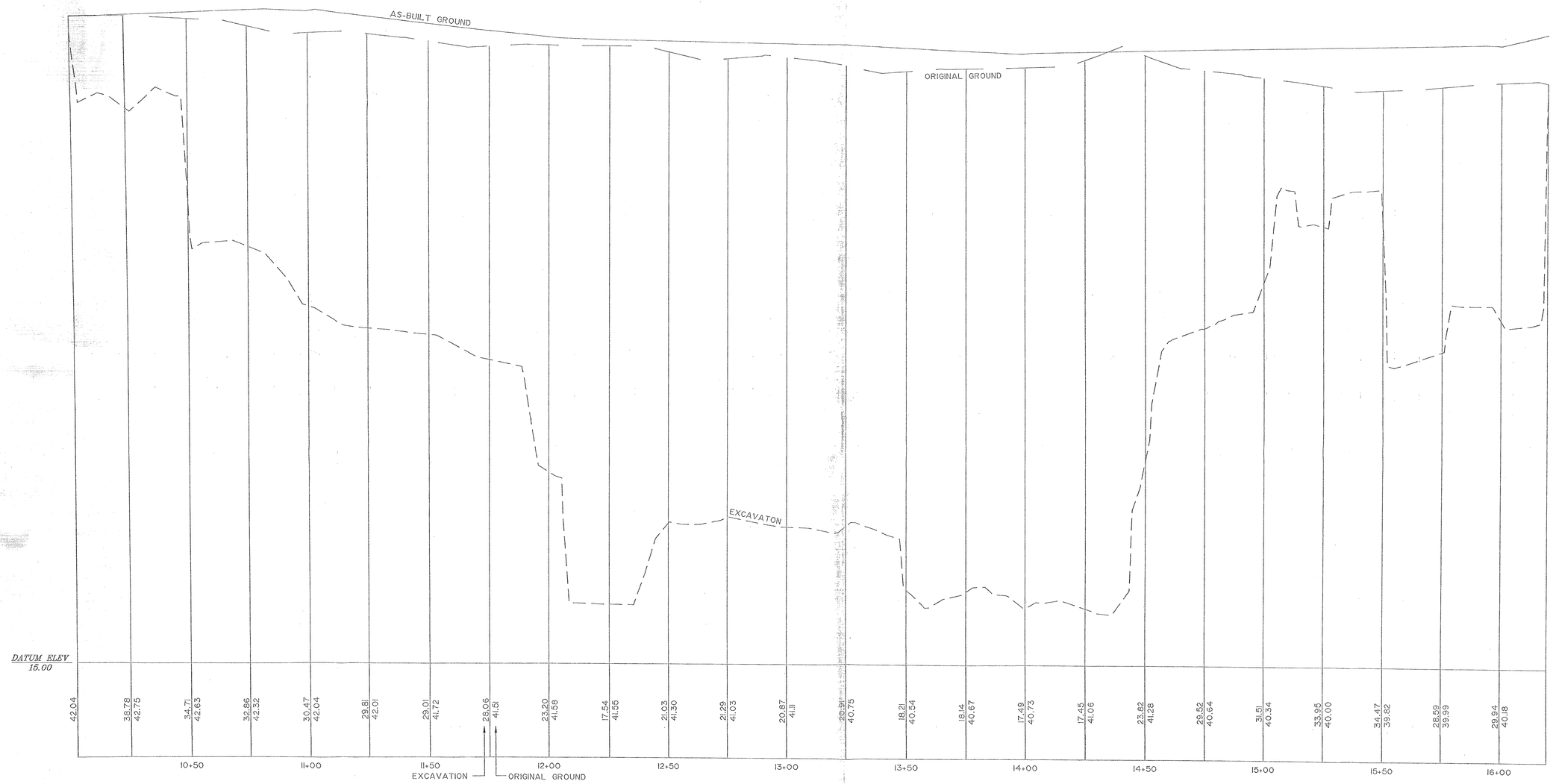
LAGOON 'B'
EXCAVATION CROSS SECTION 'C'
SCALE: Horiz. 1" = 20'
Vert. 1" = 2'

501983

US Army Corps
of Engineers

FINAL AS-BUILT LAGOON 'B'
CROSS SECTION 'C'
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

LAGOON 'B' Sheet 5 of 7 5-2-03



LAGOON 'B'
EXCAVATION CROSS SECTION 'D'
SCALE: Horiz. 1" = 20'
Vert. 1" = 2'

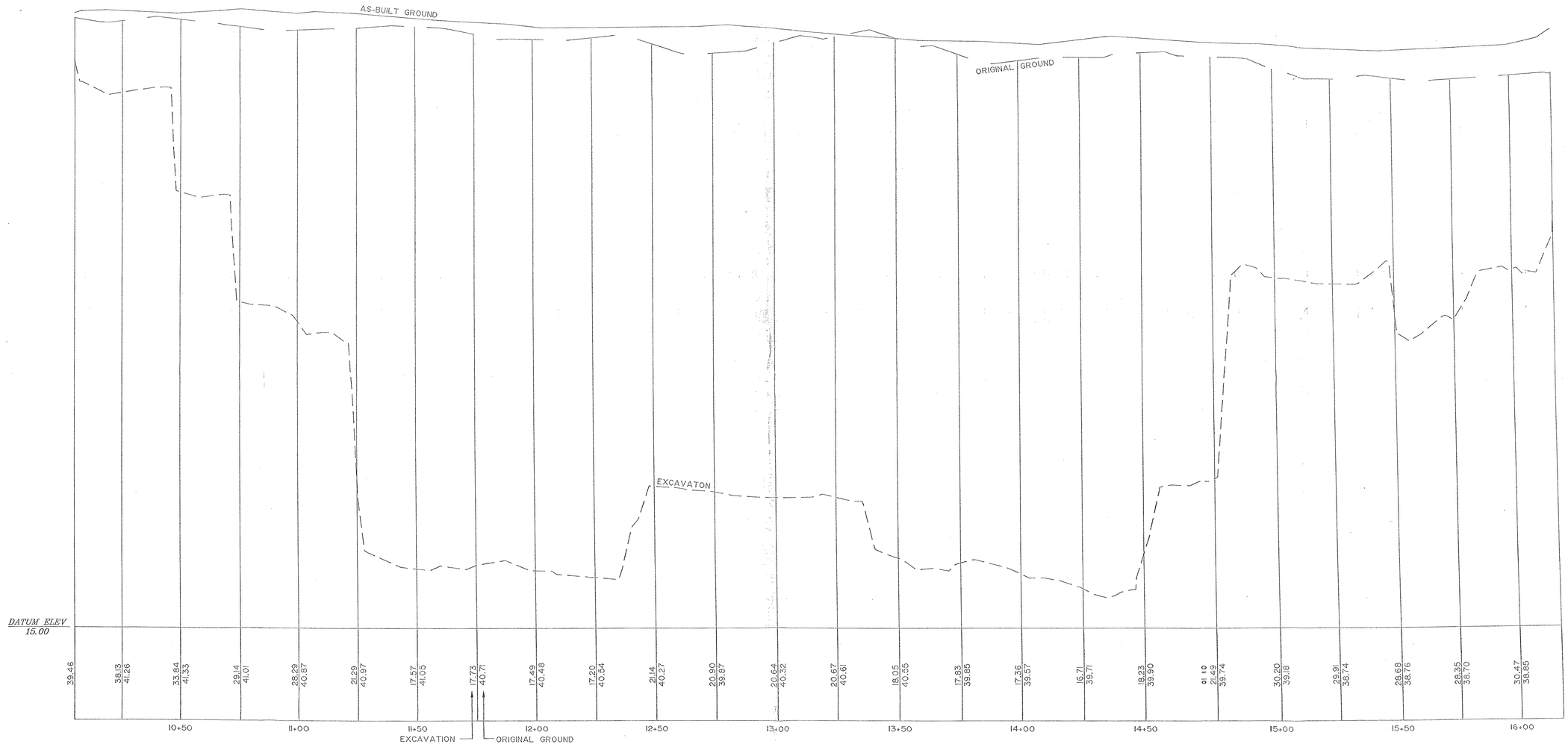
501984

EPA

US Army Corps
of Engineers

FINAL AS-BUILT LAGOON 'B'
CROSS SECTION 'D'
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

5-2-03



LAGOON 'B'
EXCAVATION CROSS SECTION 'E'
SCALE: Horiz. 1" = 20'
Vert. 1" = 2'

501985

EPA

US Army Corps
of Engineers

FINAL AS-BUILT LAGOON 'B'
CROSS SECTION 'E
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY

LAGOON 'B' Sheet 7 of 7

Appendix J

501986

Confirmation and Documentation Sample Results for 172 East Camplain Road

Grids A thru E-1

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0250-A1-F-40.2-7	FCS-OU1-9022-A1-F-40.2-7	FCS-OU1-0229-B1-F-41.0-7	FCS-OU1-0233-C1-F-40.0-7	FCS-OU1-0164-D1-F-39.5-7	FCS-OU1-0159-E1-F-37.9-7
			6 ft. BGS	6 ft. BGS (DUPE)	6 ft. BGS	5 ft. BGS	4 ft. BGS	4 ft. BGS
Benzo(a)anthracene	900	ug/kg	330 U	330 U	117 J	330 U	330 U	330 U
Benzo(b)fluoranthene	900	ug/kg	76 J	330 U	124 J	330 U	92 J	330 U
Benzo(k)fluoranthene	9000	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U
Benzo(a)pyrene	660	ug/kg	330 U	330 U	84 J	330 U	330 U	330 U
Chrysene	90000	ug/kg	77 J	330 U	123 J	330 U	87 J	330 U
Dibenz(a,h)anthracene	660	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U
Indeno(1,2,3-cd)pyrene	900	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0234-C1-SW-41.0-7	FCS-OU1-9021-C1-SW-41.0-7	FCS-OU1-0165-D1-SW-40.5-7	FCS-OU1-0162-E1-SW-38.4-7
			4 ft. BGS	4 ft. BGS	3 ft. BGS	3 ft. BGS
Benzo(a)anthracene	900	ug/kg	502	140 J	330 U	330 U
Benzo(b)fluoranthene	900	ug/kg	563	146 J	330 U	330 U
Benzo(k)fluoranthene	9000	ug/kg	520	131 J	330 U	330 U
Benzo(a)pyrene	660	ug/kg	517	112 J	330 U	330 U
Chrysene	90000	ug/kg	582	169 J	330 U	330 U
Dibenz(a,h)anthracene	660	ug/kg	140 J	330 U	330 U	330 U
Indeno(1,2,3-cd)pyrene	900	ug/kg	288 J	73 J	330 U	330 U

NOTE - All data has been validated

Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

LEGEND

Confirmation Sample --->
Documentation Sample below Cleanup Goals --->
Documentation Sample above Cleanup Goals --->
No Sample Taken - Excavation to Bedrock --->

Confirmation and Documentation Sample Results for 172 East Camplain Road Grids A thru E-2

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0227-A2-F-33.0-7 14 ft. BGS		FCS-OU1-0231-B2-F-33.0-7 14 ft. BGS		FCS-OU1-0236-C2-F-33.0-7 13 ft. BGS		FCS-OU1-0166-D2-F-40.5-7 3 ft. BGS		FCS-OU1-0160-E2-F-37.9-7 4 ft. BGS		FCS-OU1-9015-E2-F-37.9-7 4 ft. BGS (DUPE)	
Benzo(a)anthracene	900	ug/kg	330	U	330	U	330	U	510		330	U	330	U
Benzo(b)fluoranthene	900	ug/kg	330	U	330	U	330	U	682		330	U	330	U
Benzo(k)fluoranthene	9000	ug/kg	330	U	330	U	330	U	498		330	U	330	U
Benzo(a)pyrene	660	ug/kg	330	U	330	U	330	U	391		330	U	330	U
Chrysene	90000	ug/kg	330	U	330	U	330	U	653		330	U	330	U
Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U	330	U	141	J	330	U	330	U
Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	330	U	330	U	247	J	330	U	330	U

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS
Benzo(a)anthracene	900	ug/kg
Benzo(b)fluoranthene	900	ug/kg
Benzo(k)fluoranthene	9000	ug/kg
Benzo(a)pyrene	660	ug/kg
Chrysene	90000	ug/kg
Dibenz(a,h)anthracene	660	ug/kg
Indeno(1,2,3-cd)pyrene	900	ug/kg

NOTE - All data has been validated

Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

LEGEND

Confirmation Sample --->
Documentation Sample below Cleanup Goals --->
Documentation Sample above Cleanup Goals --->
No Sample Taken - Excavation to Bedrock --->

501988

Confirmation and Documentation Sample Results for 172 East Camplain Road Grids A thru E-3

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0228-A3-F-33.0-7		FCS-OU1-0232-B3-F-33.0-7		FCS-OU1-0237-C3-F-33.0-7		FCS-OU1-0220-D3-F-33.0-7		FCS-OU1-9020-D3-F-33.0-7		FCS-OU1-0188-E3-F-34.0-7	
			14 ft. BGS		14 ft. BGS		13 ft. BGS		10 ft. BGS		10 ft. BGS (DUPE)		8 ft. BGS	
Benzo(a)anthracene	900	ug/kg	330	U	330	U	330	U	330	U	330	U	282	J
Benzo(b)fluoranthene	900	ug/kg	330	U	330	U	330	U	330	U	330	U	567	
Benzo(k)fluoranthene	9000	ug/kg	330	U	330	U	330	U	330	U	330	U	408	
Benzo(a)pyrene	660	ug/kg	330	U	330	U	330	U	330	U	330	U	541	
Chrysene	90000	ug/kg	330	U	330	U	330	U	330	U	330	U	276	J
Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U	330	U	330	U	330	U	168	J
Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	330	U	330	U	330	U	330	U	382	

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0239-A3-WW-36.0-7	
			11 ft. BGS	
Benzo(a)anthracene	900	ug/kg	330	U
Benzo(b)fluoranthene	900	ug/kg	330	U
Benzo(k)fluoranthene	9000	ug/kg	330	U
Benzo(a)pyrene	660	ug/kg	330	U
Chrysene	90000	ug/kg	330	U
Dibenz(a,h)anthracene	660	ug/kg	330	U
Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U

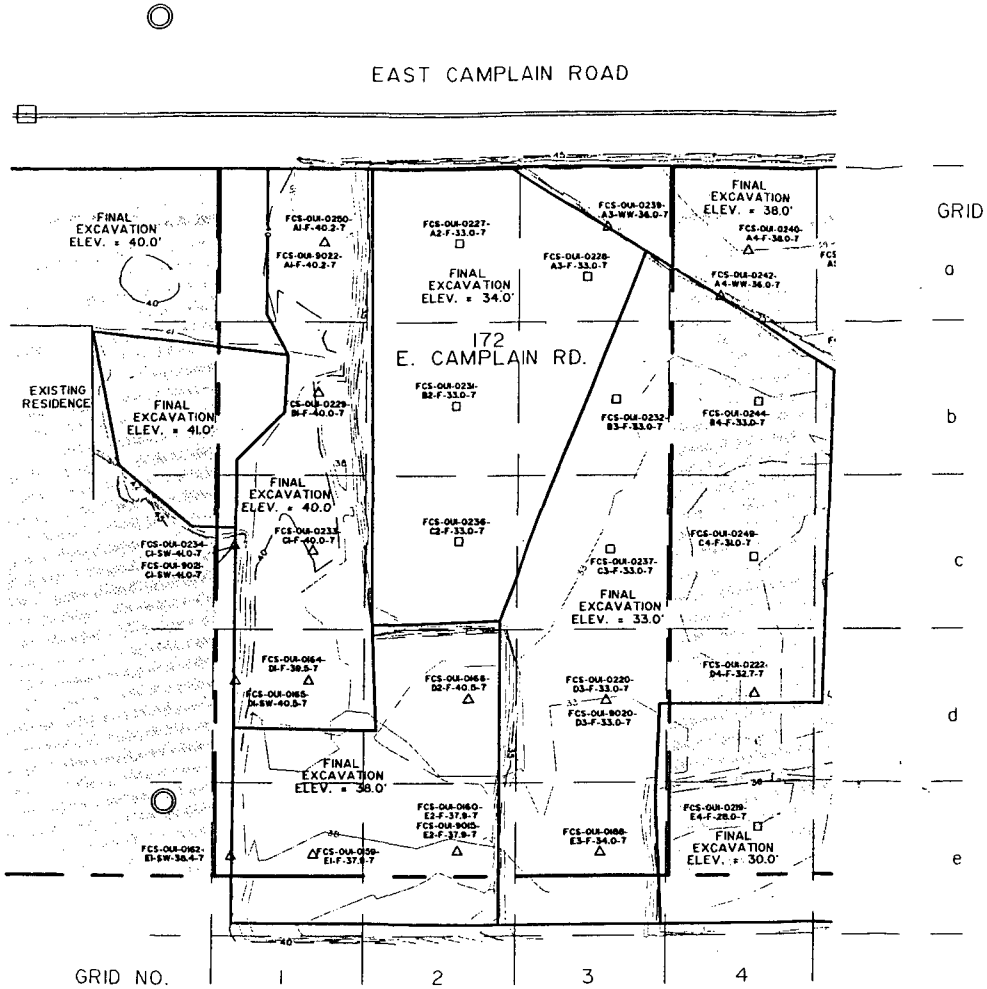
NOTE - All data has been validated

Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

LEGEND

Confirmation Sample --->
Documentation Sample below Cleanup Goals --->
Documentation Sample above Cleanup Goals --->
No Sample Taken - Excavation to Bedrock --->

501989



LEGEND

- FINAL EXCAVATION CONTOURS
- PROPERTY LINES
- CURB LINE
- XXXX — CONFIRMATION SAMPLE
- XXXX — DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL
- XXXX — DOCUMENTATION SAMPLE BELOW CLEANUP GOAL

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.

501390

EPA

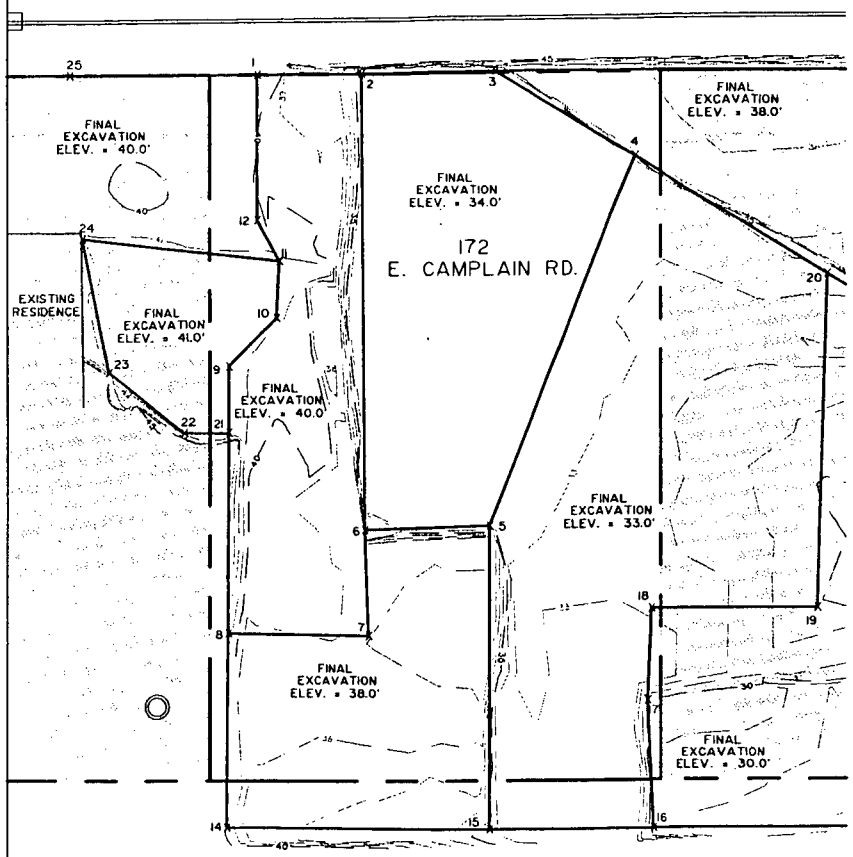
US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATIC SAMPLE LOCATIONS

172 E. CAMPLAIN ROAD

FEDERAL CREOSOTE SUPERFUND SITI

BOROUGH OF MANVILLE, SOMERSET COUNT



FINAL EXCAVATION COORDINATES			
1	N 622869.5 E 469443.3	14	N 622787.9 E 469535.3
2	N 622883.0 E 469454.3	15	N 622821.7 E 469563.3
3	N 622900.4 E 469468.1	16	N 622842.8 E 469580.3
4	N 622909.5 E 469493.5	17	N 622855.2 E 469563.5
5	N 622853.0 E 469524.9	18	N 622865.2 E 469552.3
6	N 622836.5 E 469512.3	19	N 622886.5 E 469569.6
7	N 622826.2 E 469526.0	20	N 622922.1 E 469528.6
8	N 622808.2 E 469510.8	21	N 622828.8 E 469485.6
9	N 622835.8 E 469477.2	22	N 622823.3 E 469480.9
10	N 622846.8 E 469476.1	23	N 622820.0 E 469465.3
11	N 622853.0 E 469469.2	24	N 622830.4 E 469445.6
12	N 622854.5 E 469461.7	25	N 622845.5 E 469423.8

LEGEND

38 — FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

(IN FEET)

1 inch = 20 ft.

EPA

US Army Corps of Engineers

FINAL EXCAVATION LIMITS

172 E. CAMPLAIN ROAD

FEDERAL CREOSOTE SUPERFUND SITE

BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

B-06-02

501991

Confirmation and Documentation Sample Results for 180 East Camplain Road

Grids A thru E-4

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0240-A4-F-38.0-7		FCS-OU1-0244-B4-F-33.0-7		FCS-OU1-0249-C4-F-31.0-7		FCS-OU1-0222-D4-F-32.7-7		FCS-OU1-0219-E4-F-28.0-7	
			8 ft. BGS		13 ft. BGS		13 ft. BGS		9 ft. BGS		13 ft. BGS	
Benzo(a)anthracene	900	ug/kg	491		122	J	706		217	J	80	J
Benzo(b)fluoranthene	900	ug/kg	184	J	72	J	385		123	J	152	J
Benzo(k)fluoranthene	9000	ug/kg	251	J	330	U	410		123	J	138	J
Benzo(a)pyrene	660	ug/kg	216	J	330	U	406		127	J	152	J
Chrysene	90000	ug/kg	2500		164	J	649		189	J	73	J
Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U	89	J	330	U	330	U
Indeno(1,2,3-cd)pyrene	900	ug/kg	90	J	330	U	179	J	330	U	122	J

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0242-A4-WW-36.0-7	
			10 ft. BGS	
Benzo(a)anthracene	900	ug/kg	330	U
Benzo(b)fluoranthene	900	ug/kg	330	U
Benzo(k)fluoranthene	9000	ug/kg	330	U
Benzo(a)pyrene	660	ug/kg	330	U
Chrysene	90000	ug/kg	330	U
Dibenz(a,h)anthracene	660	ug/kg	330	U
Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U

NOTE - All data has been validated

Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

LEGEND

Confirmation Sample --->

Documentation Sample below Cleanup Goals --->

Documentation Sample above Cleanup Goals --->

No Sample Taken - Excavation to Bedrock --->

501992

Confirmation and Documentation Sample Results for 180 East Camplain Road Grids A thru E-5

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0243-A5-F-38.0-7	FCS-OU1-0245-B5-F-38.0-7	FCS-OU1-0247-B5-F-33.0-7	FCS-OU1-0248-C5-F-31.0-7	FCS-OU1-0224-D5-F-29.0-7	FCS-OU1-0218-E5-F-28.0-7
			8 ft. BGS	9 ft. BGS	14 ft. BGS	13.5 ft. BGS	12 ft. BGS	13 ft. BGS
Benzo(a)anthracene	900	ug/kg	330 U	330 U	330 U	261 J	330 U	330 U
Benzo(b)fluoranthene	900	ug/kg	330 U	330 U	330 U	144 J	330 U	107 J
Benzo(k)fluoranthene	9000	ug/kg	330 U	330 U	330 U	177 J	330 U	330 U
Benzo(a)pyrene	660	ug/kg	330 U	330 U	330 U	158 J	330 U	100 J
Chrysene	90000	ug/kg	330 U	330 U	330 U	246 J	330 U	330 U
Dibenz(a,h)anthracene	660	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U
Indeno(1,2,3-cd)pyrene	900	ug/kg	330 U	330 U	330 U	72 J	330 U	76 J

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0246-B5-WW-36.0-7
			11 ft. BGS
Benzo(a)anthracene	900	ug/kg	330 U
Benzo(b)fluoranthene	900	ug/kg	330 U
Benzo(k)fluoranthene	9000	ug/kg	330 U
Benzo(a)pyrene	660	ug/kg	330 U
Chrysene	90000	ug/kg	330 U
Dibenz(a,h)anthracene	660	ug/kg	330 U
Indeno(1,2,3-cd)pyrene	900	ug/kg	330 U

NOTE - All data has been validated

Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

LEGEND

Confirmation Sample --->

Documentation Sample below Cleanup Goals --->

Documentation Sample above Cleanup Goals --->

No Sample Taken - Excavation to Bedrock --->

501993

Confirmation and Documentation Sample Results for 180 East Camplain Road — Grids A thru E-6

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0154-A6-F-39.8-7 6 ft. BGS		FCS-OU1-0163-B6-F-36.1-7 11 ft. BGS		FCS-OU1-0217-C6-F-30.1-7 15 ft. BGS		FCS-OU1-0216-D6-F-30.1-7 12 ft. BGS		GRID E6 - NO SAMPLE (BDRK) 24 ft. BGS	
Benzo(a)anthracene	900	ug/kg	330	U	330	U	330	U	2170		ND	
Benzo(b)fluoranthene	900	ug/kg	330	U	330	U	330	U	1170		ND	
Benzo(k)fluoranthene	9000	ug/kg	330	U	330	U	330	U	981		ND	
Benzo(a)pyrene	660	ug/kg	330	U	330	U	330	U	1140		ND	
Chrysene	90000	ug/kg	330	U	330	U	330	U	1760		ND	
Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U	330	U	283	J	ND	
Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	330	U	330	U	495		ND	

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS
Benzo(a)anthracene	900	ug/kg
Benzo(b)fluoranthene	900	ug/kg
Benzo(k)fluoranthene	9000	ug/kg
Benzo(a)pyrene	660	ug/kg
Chrysene	90000	ug/kg
Dibenz(a,h)anthracene	660	ug/kg
Indeno(1,2,3-cd)pyrene	900	ug/kg

NOTE - All data has been validated

Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

LEGEND

Confirmation Sample --->

Documentation Sample below Cleanup Goals --->

Documentation Sample above Cleanup Goals --->

No Sample Taken - Excavation to Bedrock --->

501994

Confirmation and Documentation Sample Results for 180 East Camplain Road — Grids A thru E-7

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0150-A7-F-39.8-7 5 ft. BGS		FCS-OU1-0157-B7-F-39.1-7 7 ft. BGS		FCS-OU1-0214-C7-F-30.3-7 14 ft. BGS		FCS-OU1-0215-D7-F-30.3-7 11 ft. BGS		GRID E7 - NO SAMPLE (BDRK) 24 ft. BGS	
Benzo(a)anthracene	900	ug/kg	330	U	330	U	310	J	330	U	ND	
Benzo(b)fluoranthene	900	ug/kg	330	U	330	U	142	J	330	U	ND	
Benzo(k)fluoranthene	9000	ug/kg	330	U	330	U	193	J	330	U	ND	
Benzo(a)pyrene	660	ug/kg	330	U	330	U	170	J	330	U	ND	
Chrysene	90000	ug/kg	330	U	330	U	261	J	330	U	ND	
Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U	330	U	330	U	ND	
Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	330	U	330	U	330	U	ND	

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS
Benzo(a)anthracene	900	ug/kg
Benzo(b)fluoranthene	900	ug/kg
Benzo(k)fluoranthene	9000	ug/kg
Benzo(a)pyrene	660	ug/kg
Chrysene	90000	ug/kg
Dibenz(a,h)anthracene	660	ug/kg
Indeno(1,2,3-cd)pyrene	900	ug/kg

NOTE - All data has been validated

Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

LEGEND

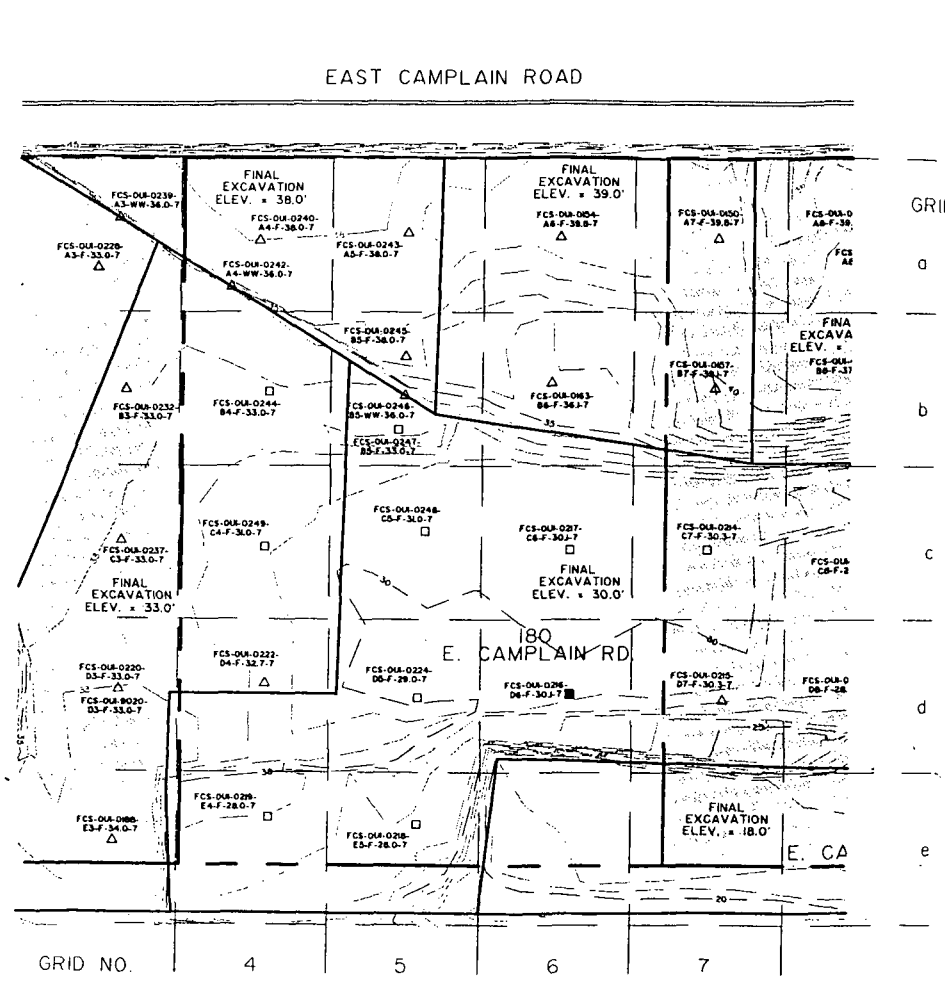
Confirmation Sample --->

Documentation Sample below Cleanup Goals --->

Documentation Sample above Cleanup Goals --->

No Sample Taken - Excavation to Bedrock --->

501995



LEGEND

- FINAL EXCAVATION CONTOURS
- PROPERTY LINES
- CURB LINE
- XXXX — CONFIRMATION SAMPLE
- XXXX — DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL
- XXXX — DOCUMENTATION SAMPLE BELOW CLEANUP GOAL

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.

EPA

US Army Corps of Engineers

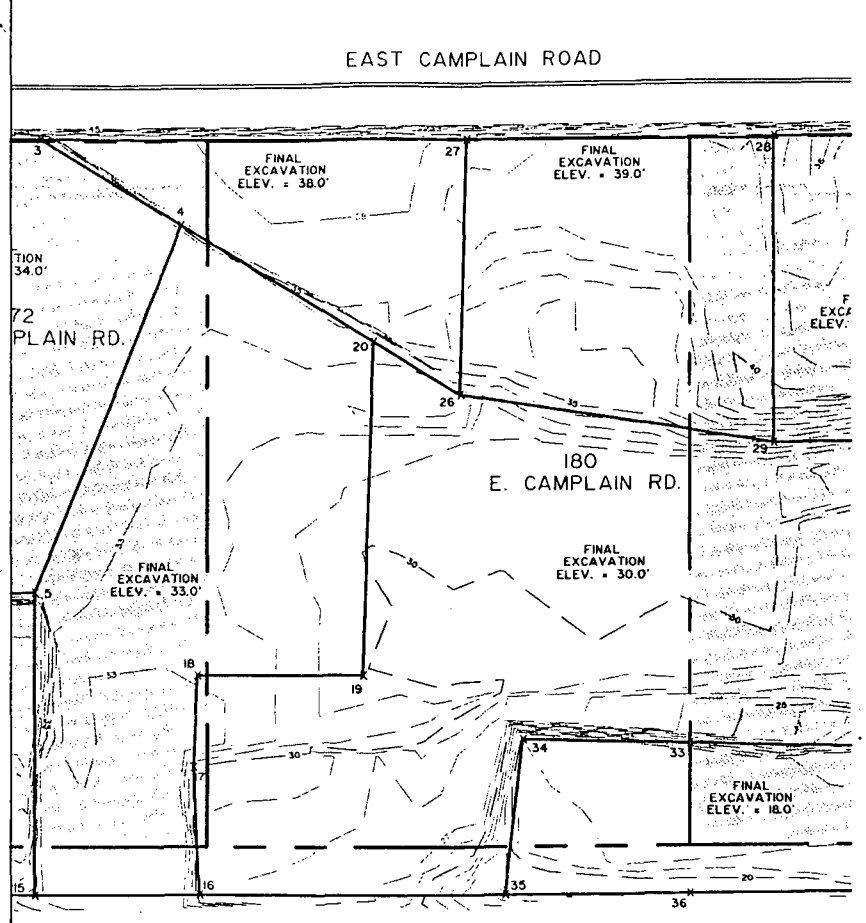
CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS

180 E. CAMPLAIN ROAD

FEDERAL CREOSOTE SUPERFUND SITE

BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

501996



NORTH NEW JERSEY STATE PLANE

FINAL EXCAVATION COORDINATES			
3	N 622900.4 E 469468.1	26	N 622927.7 E 469544.4
4	N 622909.5 E 469493.5	27	N 622954.8 E 469512.8
5	N 622853.0 E 469524.9	28	N 622994.5 E 469545.0
15	N 622821.7 E 469563.3	29	N 622963.1 E 469583.5
16	N 622842.8 E 469580.3	33	N 622921.4 E 469612.5
17	N 622855.2 E 469563.5	34	N 622900.4 E 469594.5
18	N 622865.2 E 469552.3	35	N 622882.1 E 469612.3
19	N 622886.5 E 469569.6	36	N 622905.8 E 469631.6
20	N 622922.1 E 469528.6		

LEGEND

—38— FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.

EPA

US Army Corps of Engineers

FINAL EXCAVATION LIMITS

180 E. CAMPLAIN ROAD

FEDERAL CREOSOTE SUPERFUND SITE

BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

9-06-02

501997

Confirmation Sample and Documentation Results for 186 East Camplain Road

Grids A thru E-7

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0150-A7-F-39.8-7 6 ft. BGS		FCS-OU1-0157-B7-F-39.1-7 7 ft. BGS		FCS-OU1-0214-C7-F-30.3-7 14 ft. BGS		FCS-OU1-0215-D7-F-30.3-7 11 ft. BGS		GRID E7 - NO SAMPLE (BDRK) 24 ft. BGS	
Benzo(a)anthracene	900	ug/kg	330	U	330	U	310	J	330	U	ND	
Benzo(b)fluoranthene	900	ug/kg	330	U	330	U	142	J	330	U	ND	
Benzo(k)fluoranthene	9000	ug/kg	330	U	330	U	193	J	330	U	ND	
Benzo(a)pyrene	660	ug/kg	330	U	330	U	170	J	330	U	ND	
Chrysene	90000	ug/kg	330	U	330	U	261	J	330	U	ND	
Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U	330	U	330	U	ND	
Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	330	U	330	U	330	U	ND	

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS
Benzo(a)anthracene	900	ug/kg
Benzo(b)fluoranthene	900	ug/kg
Benzo(k)fluoranthene	9000	ug/kg
Benzo(a)pyrene	660	ug/kg
Chrysene	90000	ug/kg
Dibenz(a,h)anthracene	660	ug/kg
Indeno(1,2,3-cd)pyrene	900	ug/kg

NOTE - All data has been validated

Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

LEGEND

Confirmation Sample --->

Documentation Sample below Cleanup Goals --->

Documentation Sample above Cleanup Goals --->

No Sample Taken - Excavation to Bedrock --->

501998

Confirmation Sample and Documentation Results for 186 East Camplain Road — Grids A thru E-8

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0152-A8-F-39.0-7	FCS-OU1-0153-A8-F-37.4-7	FCS-OU1-0155-B8-F-37.8-7	FCS-OU1-0213-C8-F-28.2-7	FCS-OU1-0212-D8-F-28.2-7	GRID E8 - NO SAMPLE (BDRK)
			7 ft BGS	8 ft BGS	9 ft BGS	17 ft BGS	13 ft BGS	19 ft BGS
Benzo(a)anthracene	900	ug/kg	330 U	330 U	330 U	330 U	330 U	ND
Benzo(b)fluoranthene	900	ug/kg	330 U	330 U	330 U	330 U	330 U	ND
Benzo(k)fluoranthene	9000	ug/kg	330 U	330 U	330 U	330 U	330 U	ND
Benzo(a)pyrene	660	ug/kg	330 U	330 U	330 U	330 U	330 U	ND
Chrysene	90000	ug/kg	330 U	330 U	330 U	330 U	330 U	ND
Dibenz(a,h)anthracene	660	ug/kg	330 U	330 U	330 U	330 U	330 U	ND
Indeno(1,2,3-cd)pyrene	900	ug/kg	330 U	330 U	330 U	330 U	330 U	ND

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS
Benzo(a)anthracene	900	ug/kg
Benzo(b)fluoranthene	900	ug/kg
Benzo(k)fluoranthene	9000	ug/kg
Benzo(a)pyrene	660	ug/kg
Chrysene	90000	ug/kg
Dibenz(a,h)anthracene	660	ug/kg
Indeno(1,2,3-cd)pyrene	900	ug/kg

NOTE - All data has been validated

Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

LEGEND

Confirmation Sample --->

Documentation Sample below Cleanup Goals --->

Documentation Sample above Cleanup Goals --->

No Sample Taken - Excavation to Bedrock --->

501999

Confirmation Sample and Documentation Results for 186 East Camplain Road

Grids A thru E-9

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0146-A9-F-38.6-7		FCS-OU1-0149-B9-F-37.6-7		GRID C9 - NO SAMPLE (BDRK)		GRID D9 - NO SAMPLE (BDRK)		GRID E9 - NO SAMPLE (BDRK)	
			6.5 ft BGS		8 ft BGS		27 ft BGS		25 ft. BGS		23 ft BGS	
Benzo(a)anthracene	900	ug/kg	330	U	330	U		ND		ND		ND
Benzo(b)fluoranthene	900	ug/kg	330	U	330	U		ND		ND		ND
Benzo(k)fluoranthene	9000	ug/kg	330	U	330	U		ND		ND		ND
Benzo(a)pyrene	660	ug/kg	330	U	330	U		ND		ND		ND
Chrysene	90000	ug/kg	330	U	330	U		ND		ND		ND
Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U		ND		ND		ND
Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	330	U		ND		ND		ND

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS
Benzo(a)anthracene	900	ug/kg
Benzo(b)fluoranthene	900	ug/kg
Benzo(k)fluoranthene	9000	ug/kg
Benzo(a)pyrene	660	ug/kg
Chrysene	90000	ug/kg
Dibenz(a,h)anthracene	660	ug/kg
Indeno(1,2,3-cd)pyrene	900	ug/kg

NOTE - All data has been validated

Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

LEGEND

Confirmation Sample --->

Documentation Sample below Cleanup Goals --->

Documentation Sample above Cleanup Goals --->

No Sample Taken - Excavation to Bedrock --->

502000

Confirmation Sample and Documentation Results for 186 East Camplain Road

Grids A thru E-10

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0145-A10-F-38.2-7		FCS-OU1-0148-B10-F-36.8-7		FCS-OU1-0211-C10-F-21.0-7		FCS-OU1-0210-D10-F-21.0-7		FCS-OU1-9019-D10-F-21.0-7		FCS-OU1-0209-E10-F-21.0-7	
			7 ft BGS		8.5 ft BGS		13 ft BGS		21 ft BGS		21 ft BGS		19 ft BGS	
Benzo(a)anthracene	900	ug/kg	330	U	330	U	330	U	356		330	U	272	J
Benzo(b)fluoranthene	900	ug/kg	330	U	330	U	330	U	168	J	330	U	143	J
Benzo(k)fluoranthene	9000	ug/kg	330	U	330	U	330	U	230	J	330	U	144	J
Benzo(a)pyrene	660	ug/kg	330	U	330	U	330	U	194	J	330	U	149	J
Chrysene	90000	ug/kg	330	U	330	U	330	U	314	J	330	U	230	J
Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U	330	U	330	U	330	U	0	U
Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	330	U	330	U	91	J	330	U	0	U

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS
Benzo(a)anthracene	900	ug/kg
Benzo(b)fluoranthene	900	ug/kg
Benzo(k)fluoranthene	9000	ug/kg
Benzo(a)pyrene	660	ug/kg
Chrysene	90000	ug/kg
Dibenz(a,h)anthracene	660	ug/kg
Indeno(1,2,3-cd)pyrene	900	ug/kg

NOTE - All data has been validated

Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

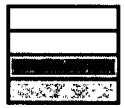
LEGEND

Confirmation Sample --->

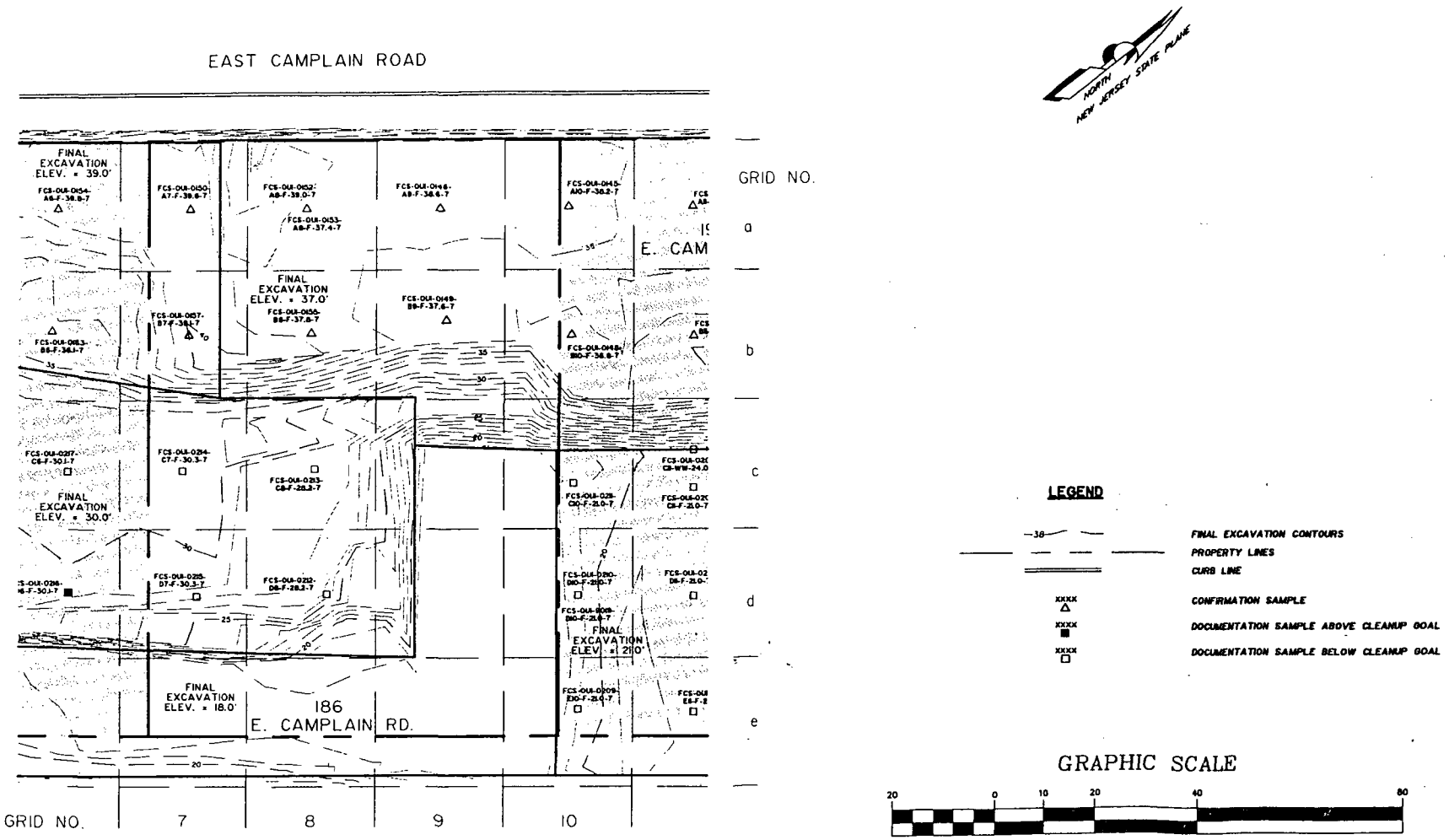
Documentation Sample below Cleanup Goals --->

Documentation Sample above Cleanup Goals --->

No Sample Taken - Excavation to Bedrock --->



502001

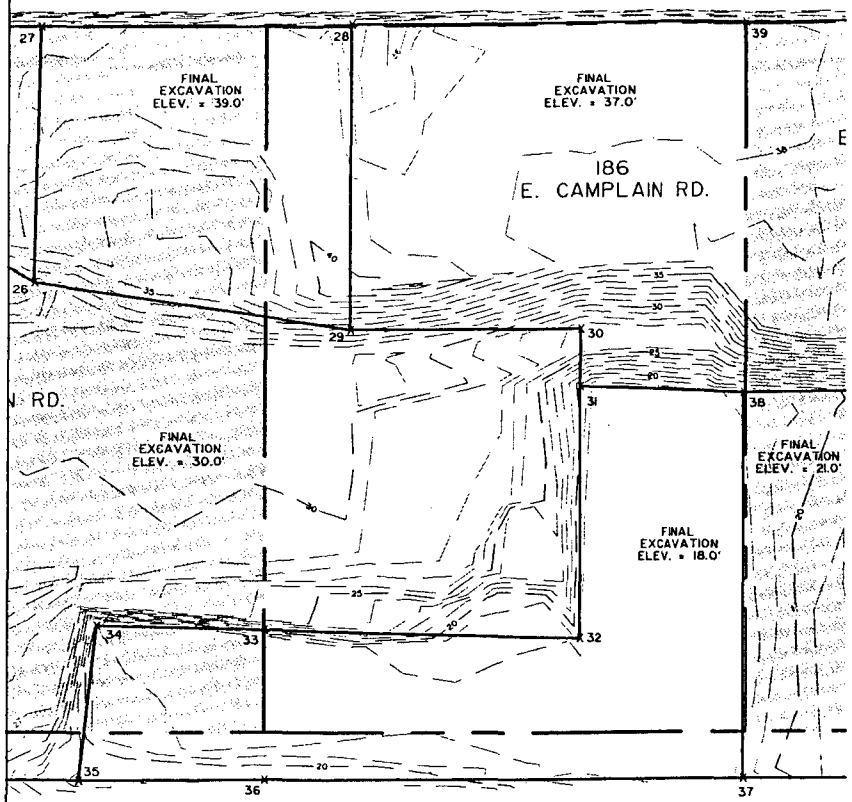


EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
186 E. CAMPLAIN ROAD
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.
8-07-02

502002



NORTH NEW JERSEY STATE PLANE

FINAL EXCAVATION COORDINATES			
26	N 622927.7 E 469544.4	33	N 622921.4 E 469612.5
27	N 622954.8 E 469512.8	34	N 622900.4 E 469594.5
28	N 622994.5 E 469545.0	35	N 622882.1 E 469612.3
29	N 622963.1 E 469583.5	36	N 622905.8 E 469631.6
30	N 622992.7 E 469607.6	37	N 622967.7 E 469681.7
31	N 622986.8 E 469614.8	38	N 623007.4 E 469633.0
32	N 622960.9 E 469646.5	39	N 623045.6 E 469586.7

LEGEND

-38- FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.

502003

EPA

US Army Corps of Engineers

FINAL EXCAVATION LIMITS

186 E. CAMPLAIN ROAD

FEDERAL CREOSOTE SUPERFUND SITE

BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

8-06-02

Confirmation & Documentation Sample Results for 192 East Camplain Road Grids A thru E-10

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0145-A10-F-38.2-7		FCS-OU1-0148-B10-F-36.8-7		FCS-OU1-0211-C10-F-21.0-7		FCS-OU1-0210-D10-F-21.0-7		FCS-OU1-9019-D10-F-21.0-7		FCS-OU1-0209-E10-F-21.0-7	
			7 ft BGS		8.5 ft BGS		23 ft BGS		21 ft BGS		21 ft BGS		19 ft BGS	
Benzo(a)anthracene	900	ug/kg	330	U	330	U	330	U	356		330	U	272	J
Benzo(b)fluoranthene	900	ug/kg	330	U	330	U	330	U	168	J	330	U	143	J
Benzo(k)fluoranthene	9000	ug/kg	330	U	330	U	330	U	230	J	330	U	144	J
Benzo(a)pyrene	660	ug/kg	330	U	330	U	330	U	194	J	330	U	149	J
Chrysene	90000	ug/kg	330	U	330	U	330	U	314	J	330	U	230	J
Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U	330	U	330	U	330	U	0	U
Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	330	U	330	U	91	J	330	U	0	U

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS
Benzo(a)anthracene	900	ug/kg
Benzo(b)fluoranthene	900	ug/kg
Benzo(k)fluoranthene	9000	ug/kg
Benzo(a)pyrene	660	ug/kg
Chrysene	90000	ug/kg
Dibenz(a,h)anthracene	660	ug/kg
Indeno(1,2,3-cd)pyrene	900	ug/kg

NOTE - All data has been validated

Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

LEGEND

Confirmation Sample --->

Documentation Sample below Cleanup Goals --->

Documentation Sample above Cleanup Goals --->

No Sample Taken - Excavation to Bedrock --->

502004

Confirmation & Documentation Sample Results for 192 East Camplain Road Grids A thru E-11

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0143-A11-F-37.8-7	FCS-OU1-0144-B11-F-35.9-7	FCS-OU1-0207-C11-F-21.0-7	FCS-OU1-0206-D11F-21.0-7	FCS-OU1-0205-E11-F-21.0-7
			7 ft BGS	9 ft BGS	23 ft BGS	20 ft BGS	19 ft BGS
Benzo(a)anthracene	900	ug/kg	330 U	330 U	330 U	330 U	330 U
Benzo(b)fluoranthene	900	ug/kg	330 U	330 U	330 U	330 U	330 U
Benzo(k)fluoranthene	9000	ug/kg	330 U	330 U	330 U	330 U	330 U
Benzo(a)pyrene	660	ug/kg	330 U	330 U	330 U	330 U	330 U
Chrysene	90000	ug/kg	330 U	330 U	330 U	330 U	330 U
Dibenz(a,h)anthracene	660	ug/kg	330 U	330 U	330 U	330 U	330 U
Indeno(1,2,3-cd)pyrene	900	ug/kg	330 U	330 U	330 U	330 U	330 U

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0208-C11-WW-24.0-7
			20 ft BGS
Benzo(a)anthracene	900	ug/kg	330 U
Benzo(b)fluoranthene	900	ug/kg	330 U
Benzo(k)fluoranthene	9000	ug/kg	330 U
Benzo(a)pyrene	660	ug/kg	330 U
Chrysene	90000	ug/kg	330 U
Dibenz(a,h)anthracene	660	ug/kg	330 U
Indeno(1,2,3-cd)pyrene	900	ug/kg	330 U

NOTE - All data has been validated

Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

LEGEND

Confirmation Sample --->

Documentation Sample below Cleanup Goals --->

Documentation Sample above Cleanup Goals --->

No Sample Taken - Excavation to Bedrock --->

502005

Confirmation & Documentation Sample Results for 192 East Camplain Road Grids A thru E-12

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0140-A12-F-37.2-7 7 ft BGS	FCS-OU1-9014-A12-F-37.2-7 7 ft BGS	FCS-OU1-0142-B12-F-36.2-7 9 ft BGS	FCS-OU1-0203-C12-F-21.0-7 22.5 ft BGS	FCS-OU1-0202-D12-F-21.0-7 20 ft BGS	FCS-OU1-0200-E12-F-21.0-7 19 ft BGS	FCS-OU1-9018-E12-F-21.0-7 19 ft BGS
Benzo(a)anthracene	900	ug/kg	330 U	330 U	112 J	330 U	330 U	330 U	330 U
Benzo(b)fluoranthene	900	ug/kg	330 U	330 U	193 J	330 U	330 U	330 U	330 U
Benzo(k)fluoranthene	9000	ug/kg	330 U	330 U	114 J	330 U	330 U	330 U	330 U
Benzo(a)pyrene	660	ug/kg	330 U	330 U	177 J	330 U	330 U	330 U	330 U
Chrysene	90000	ug/kg	330 U	330 U	112 J	330 U	330 U	330 U	330 U
Dibenz(a,h)anthracene	660	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U
Indeno(1,2,3-cd)pyrene	900	ug/kg	330 U	330 U	94 J	330 U	330 U	330 U	330 U

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0204-C12-WW-25.0-7 18.5 ft BGS	
Benzo(a)anthracene	900	ug/kg	6070	
Benzo(b)fluoranthene	900	ug/kg	2710	
Benzo(k)fluoranthene	9000	ug/kg	3260	
Benzo(a)pyrene	660	ug/kg	3270	
Chrysene	90000	ug/kg	4820	
Dibenz(a,h)anthracene	660	ug/kg	600	
Indeno(1,2,3-cd)pyrene	900	ug/kg	1260	

NOTE - All data has been validated

Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

LEGEND

Confirmation Sample --->

Documentation Sample below Cleanup Goals --->

Documentation Sample above Cleanup Goals --->

No Sample Taken - Excavation to Bedrock --->

502006

Confirmation & Documentation Sample Results for 192 East Camplain Road Grids A thru E-13

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0138-A13-F-36.9-7	FCS-OU1-0139-B13-F-36.2-7	FCS-OU1-0198-C13-F-21.0-7	FCS-OU1-0197-D13-F-21.0-7	FCS-OU1-0196-E13-F-21.0-7
			7 ft BGS	9 ft BGS	22 ft BGS	19.5 ft BGS	20 ft BGS
Benzo(a)anthracene	900	ug/kg	330 U	215 J	330 U	330 U	330 U
Benzo(b)fluoranthene	900	ug/kg	330 U	334	330 U	330 U	330 U
Benzo(k)fluoranthene	9000	ug/kg	330 U	219 J	330 U	330 U	330 U
Benzo(a)pyrene	660	ug/kg	330 U	301 J	330 U	330 U	330 U
Chrysene	90000	ug/kg	330 U	228 J	330 U	330 U	330 U
Dibenz(a,h)anthracene	660	ug/kg	330 U	91 J	330 U	330 U	330 U
Indeno(1,2,3-cd)pyrene	900	ug/kg	330 U	176 J	330 U	330 U	330 U

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0199-C13-WW-24.0-7
			19 ft BGS
Benzo(a)anthracene	900	ug/kg	330 U
Benzo(b)fluoranthene	900	ug/kg	330 U
Benzo(k)fluoranthene	9000	ug/kg	330 U
Benzo(a)pyrene	660	ug/kg	330 U
Chrysene	90000	ug/kg	330 U
Dibenz(a,h)anthracene	660	ug/kg	330 U
Indeno(1,2,3-cd)pyrene	900	ug/kg	330 U

NOTE - All data has been validated

Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

LEGEND

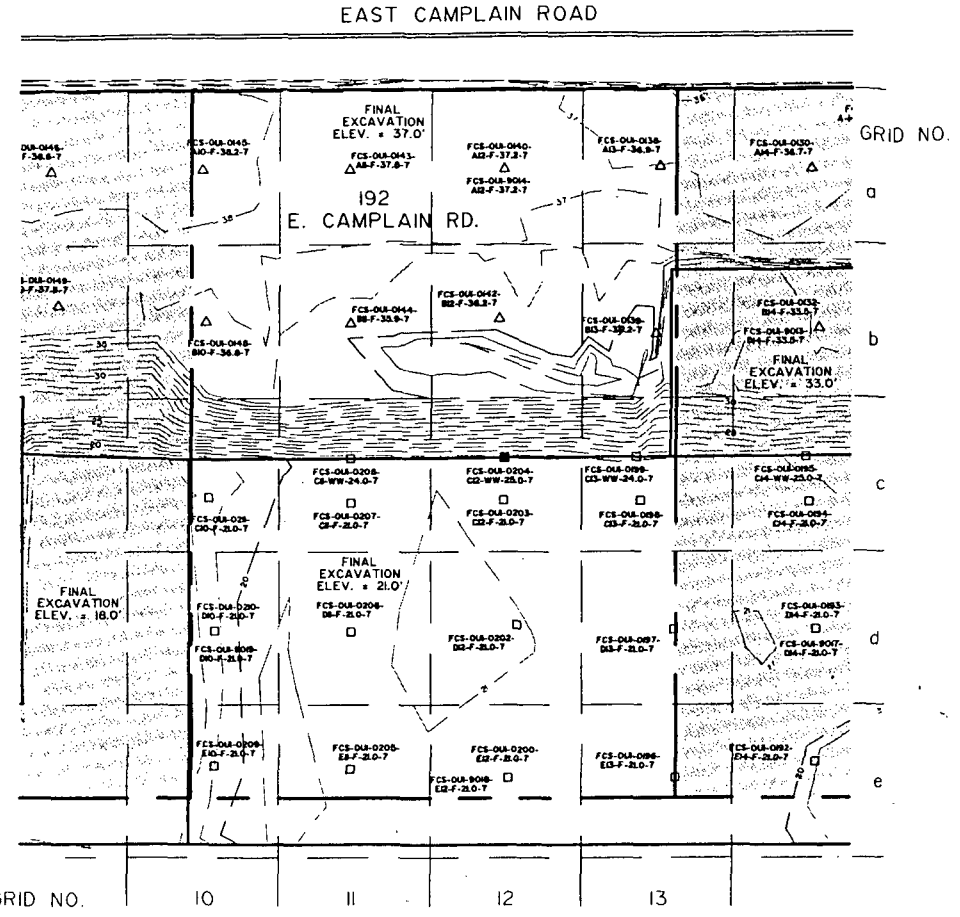
Confirmation Sample --->

Documentation Sample below Cleanup Goals --->

Documentation Sample above Cleanup Goals --->

No Sample Taken - Excavation to Bedrock --->

502007



NORTH NEW JERSEY STATE PLANE

LEGEND

- FINAL EXCAVATION CONTOURS
- PROPERTY LINES
- CURB LINE
- CONFIRMATION SAMPLE
- DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL
- DOCUMENTATION SAMPLE BELOW CLEANUP GOAL

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.

502008

EPA

US Army Corps of Engineers

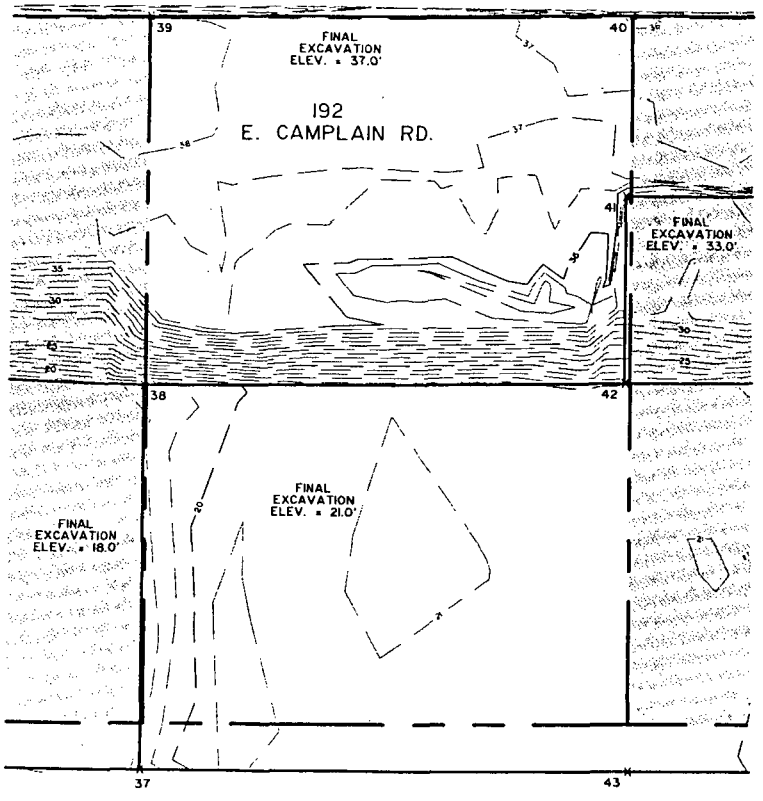
CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS

192 E. CAMPLAIN ROAD

FEDERAL CREOSOTE SUPERFUND SITE

BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

EAST CAMPLAIN ROAD



NORTH
NEW JERSEY STATE PLANE

FINAL EXCAVATION COORDINATES			
37	N 622967.7 E 469681.7	41	N 623088.5 E 469659.4
38	N 623007.4 E 469633.0	42	N 623069.2 E 469682.9
39	N 623045.6 E 469586.7	43	N 623029.9 E 469732.6
40	N 623107.7 E 469637.2		

LEGEND

38 — FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.

502009

EPA

US Army Corps of Engineers

FINAL EXCAVATION LIMITS

192 E. CAMPLAIN ROAD

FEDERAL CREOSOTE SUPERFUND SITE

BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

8-08-02

Confirmation and Documentation Sample Results for 198 East Camplain Road Grids A thru E-13

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0138-A13-F-36.9-7		FCS-OU1-0139-B13-F-36.2-7		FCS-OU1-0198-C13-F-21.0-7		FCS-OU1-0197-D13-F-21.0-7		FCS-OU1-0196-E13-F-21.0-7	
			7 ft BGS		9 ft BGS		11.5 ft BGS		20 ft BGS		19.5 ft BGS	
Benzo(a)anthracene	900	ug/kg	330	U	215	J	330	U	330	U	330	U
Benzo(b)fluoranthene	900	ug/kg	330	U	334		330	U	330	U	330	U
Benzo(k)fluoranthene	9000	ug/kg	330	U	219	J	330	U	330	U	330	U
Benzo(a)pyrene	660	ug/kg	330	U	301	J	330	U	330	U	330	U
Chrysene	90000	ug/kg	330	U	228	J	330	U	330	U	330	U
Dibenz(a,h)anthracene	660	ug/kg	330	U	91	J	330	U	330	U	330	U
Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	176	J	330	U	330	U	330	U

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0199-C13-WW-24.0-7	
			19 ft BGS	
Benzo(a)anthracene	900	ug/kg	330	U
Benzo(b)fluoranthene	900	ug/kg	330	U
Benzo(k)fluoranthene	9000	ug/kg	330	U
Benzo(a)pyrene	660	ug/kg	330	U
Chrysene	90000	ug/kg	330	U
Dibenz(a,h)anthracene	660	ug/kg	330	U
Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U

NOTE - All data has been validated

Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

LEGEND

Confirmation Sample --->

Documentation Sample below Cleanup Goals --->

Documentation Sample above Cleanup Goals --->

No Sample Taken - Excavation to Bedrock --->

502010

Confirmation and Documentation Sample Results for 198 East Camplain Road Grids A thru E-14

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0130-A14-F-36.7-7 8 ft BGS	FCS-OU1-0132-B14-F-33.5-7 11 ft BGS	FCS-OU1-9013-B14-F-33.5-7 11 ft BGS	FCS-OU1-0194-C14-F-21.0-7 21.5 ft BGS	FCS-OU1-0193-D14-F-21.0-7 19.5 ft BGS	FCS-OU1-9017-D14-F-21.0-7 19.5 ft BGS	FCS-OU1-0192-E14-F-21.0-7 20 ft BGS	Boring - D1033 20-22 ft BGS
Benzo(a)anthracene	900	ug/kg	330 U	192 J	137 J	330 U	330 U	330 U	330 U	8600 JD
Benzo(b)fluoranthene	900	ug/kg	330 U	234 J	133 J	330 U	330 U	330 U	330 U	4900 JD
Benzo(k)fluoranthene	9000	ug/kg	330 U	167 J	129 J	330 U	330 U	330 U	330 U	1600 J
Benzo(a)pyrene	660	ug/kg	330 U	286 J	190 J	330 U	330 U	330 U	330 U	4300 J
Chrysene	90000	ug/kg	330 U	180 J	125 J	330 U	330 U	330 U	330 U	6000 J
Dibenz(a,h)anthracene	660	ug/kg	330 U	75 J	330 U	330 U	330 U	330 U	330 U	360 J
Indeno(1,2,3-cd)pyrene	900	ug/kg	330 U	330 J	121 J	330 U	330 U	330 U	330 U	990 J

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0195-C14-WW-25.0-7 17.5 ft BGS
Benzo(a)anthracene	900	ug/kg	330 U
Benzo(b)fluoranthene	900	ug/kg	330 U
Benzo(k)fluoranthene	9000	ug/kg	330 U
Benzo(a)pyrene	660	ug/kg	330 U
Chrysene	90000	ug/kg	330 U
Dibenz(a,h)anthracene	660	ug/kg	330 U
Indeno(1,2,3-cd)pyrene	900	ug/kg	330 U

NOTE - All data has been validated

Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

LEGEND

Confirmation Sample --->

Documentation Sample below Cleanup Goals --->

Documentation Sample above Cleanup Goals --->

No Sample Taken - Excavation to Bedrock --->

502011

Confirmation and Documentation Sample Results for 198 East Camplain Road Grids A thru E-15

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0127-A15-F-36.7-7 8 ft BGS		FCS-OU1-0128-B15-F-33.5-7 11.5 ft BGS		FCS-OU1-0187-C15-F-21.0-7 21.5 ft BGS		GRID D15 - NO SAMPLE (BDRK) 24 ft BGS		GRID E15 - NO SAMPLE (BDRK) 23.5 ft. BGS	
Benzo(a)anthracene	900	ug/kg	330	U	330	U	330	U		ND		ND
Benzo(b)fluoranthene	900	ug/kg	330	U	330	U	330	U		ND		ND
Benzo(k)fluoranthene	9000	ug/kg	330	U	330	U	330	U		ND		ND
Benzo(a)pyrene	660	ug/kg	330	U	330	U	330	U		ND		ND
Chrysene	90000	ug/kg	330	U	330	U	330	U		ND		ND
Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U	330	U		ND		ND
Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	330	U	330	U		ND		ND

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS
Benzo(a)anthracene	900	ug/kg
Benzo(b)fluoranthene	900	ug/kg
Benzo(k)fluoranthene	9000	ug/kg
Benzo(a)pyrene	660	ug/kg
Chrysene	90000	ug/kg
Dibenz(a,h)anthracene	660	ug/kg
Indeno(1,2,3-cd)pyrene	900	ug/kg

NOTE - All data has been validated

Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

LEGEND

Confirmation Sample --->

Documentation Sample below Cleanup Goals --->

Documentation Sample above Cleanup Goals --->

No Sample Taken - Excavation to Bedrock --->

502012

Confirmation and Documentation Sample Results for 198 East Camplain Road Grids A thru E-16

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0123-A16-F-36.6-7 7 ft BGS		FCS-OU1-9012-A16-F-36.6-7 7 ft BGS		FCS-OU1-0125-B16-F-35.6-7 9 ft BGS		FCS-OU1-0126-B16-F-33.6-7 11 ft BGS		FCS-OU1-0186-C16-F-21.0-7 21 ft BGS		GRID D16 - NO SAMPLE (BDRK) 24 ft BGS		GRID E16 - NO SAMPLE (BDRK) 22 ft BGS		Boring - D032 18-20 ft BGS	
Benzo(a)anthracene	900	ug/kg	330	U	330	U	330	U	93	J	330	U		ND		ND	51000	J
Benzo(b)fluoranthene	900	ug/kg	330	U	330	U	330	U	213	J	330	U		ND		ND	34000	UJ
Benzo(k)fluoranthene	9000	ug/kg	330	U	330	U	330	U	173	J	330	U		ND		ND	33000	XJ
Benzo(a)pyrene	660	ug/kg	330	U	330	U	330	U	222	J	330	U		ND		ND	21000	J
Chrysene	90000	ug/kg	330	U	330	U	330	U	96	J	330	U		ND		ND	39000	J
Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U	330	U	80	J	330	U		ND		ND	9600	J
Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	330	U	330	U	180	J	330	U		ND		ND	9400	J

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS
Benzo(a)anthracene	900	ug/kg
Benzo(b)fluoranthene	900	ug/kg
Benzo(k)fluoranthene	9000	ug/kg
Benzo(a)pyrene	660	ug/kg
Chrysene	90000	ug/kg
Dibenz(a,h)anthracene	660	ug/kg
Indeno(1,2,3-cd)pyrene	900	ug/kg

NOTE - All data has been validated

Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

X - Multiple Qualifiers

LEGEND

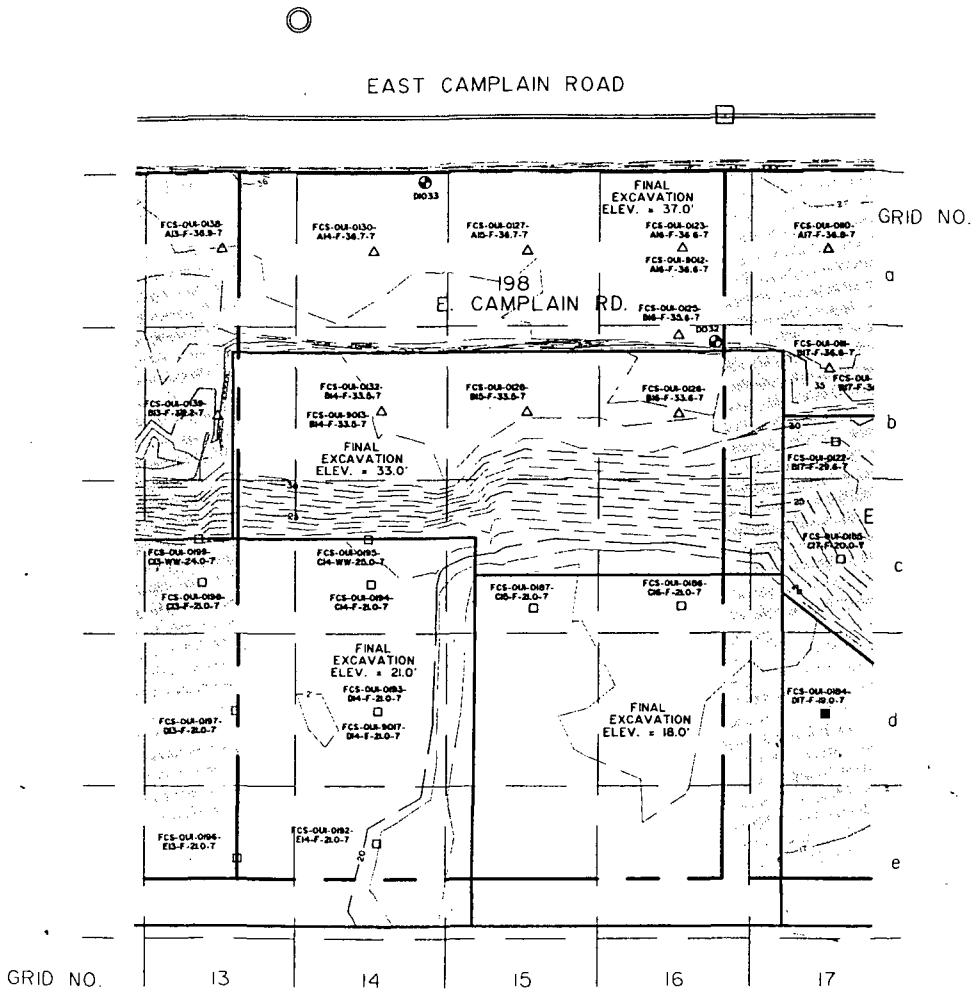
Confirmation Sample --->

Documentation Sample below Cleanup Goals --->

Documentation Sample above Cleanup Goals --->

No Sample Taken - Excavation to Bedrock --->

502013



NORTH
NEW JERSEY STATE PLANE

LEGEND

- FINAL EXCAVATION CONTOURS
- PROPERTY LINES
- CURB LINE
- CONFIRMATION SAMPLE
- DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL
- DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
- BORING ABOVE CLEANUP GOAL

GRAPHIC SCALE

20 0 10 20 40 80

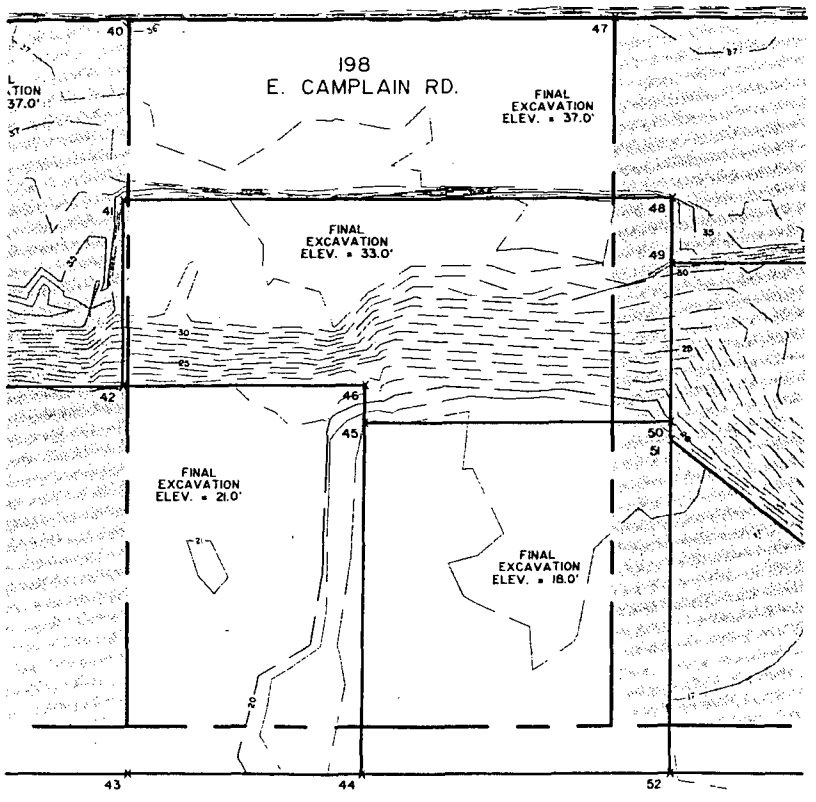
(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
198 E. CAMPLAIN ROAD
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.
8-07-02

502014



NORTH
NEW JERSEY STATE PLANE

FINAL EXCAVATION COORDINATES			
40	N 623107.7 E 469637.2	47	N 623169.7 E 469687.7
41	N 623088.5 E 469659.4	48	N 623158.6 E 469716.6
42	N 623069.2 E 469682.9	49	N 623151.9 E 469724.8
43	N 623029.9 E 469732.6	50	N 623135.6 E 469744.8
44	N 623060.0 E 469757.1	51	N 623133.8 E 469747.0
45	N 623096.5 E 469712.8	52	N 623099.41 E 469789.2
46	N 623100.4 E 469708.1		

LEGEND

-38- FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.

502015

EPA

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
198 E. CAMPLAIN ROAD
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

8-06-03

Confirmation and Documentation Sample Results for 204 East Camplain Road Grids A thru E-16

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0123-A16-F-36.6-7 7 ft BGS		FCS-OU1-9012-A16-F-36.6-7 7 ft BGS		FCS-OU1-0125-B16-F-35.6-7 9 ft BGS		FCS-OU1-0126-B16-F-33.6-7 11 ft BGS		FCS-OU1-0186-C16-F-21.0-7 21 ft BGS		GRID D16 - NO SAMPLE (BDRK) 24 ft BGS		GRID E16 - NO SAMPLE (BDRK) 22 ft BGS	
Benzo(a)anthracene	900	ug/kg	330	U	330	U	330	U	93	J	330	U		ND		ND
Benzo(b)fluoranthene	900	ug/kg	330	U	330	U	330	U	213	J	330	U		ND		ND
Benzo(k)fluoranthene	9000	ug/kg	330	U	330	U	330	U	173	J	330	U		ND		ND
Benzo(a)pyrene	660	ug/kg	330	U	330	U	330	U	222	J	330	U		ND		ND
Chrysene	90000	ug/kg	330	U	330	U	330	U	96	J	330	U		ND		ND
Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U	330	U	80	J	330	U		ND		ND
Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	330	U	330	U	180	J	330	U		ND		ND

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS
Benzo(a)anthracene	900	ug/kg
Benzo(b)fluoranthene	900	ug/kg
Benzo(k)fluoranthene	9000	ug/kg
Benzo(a)pyrene	660	ug/kg
Chrysene	90000	ug/kg
Dibenz(a,h)anthracene	660	ug/kg
Indeno(1,2,3-cd)pyrene	900	ug/kg

"NOTE" - All data has been validated

Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

LEGEND

Confirmation Sample --->

Documentation Sample below Cleanup Goals --->

Documentation Sample above Cleanup Goals --->

No Sample Taken - Excavation to Bedrock --->

502016

Confirmation and Documentation Sample Results for 204 East Camplain Road Grids A thru E-17

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0110-A17-F-36 8-7	FCS-OU1-0111-B17-F-36 6-7	FCS-OU1-9011-B17-F-36 6-7	FCS-OU1-0122-B17-F-29 6-7	FCS-OU1-0185-C17-F-20 0-7	FCS-OU1-0184-D17-F-10 0-7	GRID E17 - NO SAMPLE (BDRK)
			7 ft BGS	8.5 ft BGS	8.5 ft BGS	15.5 ft BGS	24 ft BGS	22 ft BGS	22.5 ft BGS
Benzo(a)anthracene	900	ug/kg	330 U	330 U	330 U	330 U	330 U	1200	ND
Benzo(b)fluoranthene	900	ug/kg	330 U	330 U	330 U	330 U	330 U	873	ND
Benzo(k)fluoranthene	9000	ug/kg	330 U	330 U	330 U	330 U	330 U	807	ND
Benzo(a)pyrene	660	ug/kg	330 U	330 U	330 U	330 U	330 U	677	ND
Chrysene	90000	ug/kg	330 U	330 U	330 U	330 U	330 U	1100	ND
Dibenz(a,h)anthracene	660	ug/kg	330 U	330 U	330 U	330 U	330 U	111 J	ND
Indeno(1,2,3-cd)pyrene	900	ug/kg	330 U	330 U	330 U	330 U	330 U	230 J	ND

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS
Benzo(a)anthracene	900	ug/kg
Benzo(b)fluoranthene	900	ug/kg
Benzo(k)fluoranthene	9000	ug/kg
Benzo(a)pyrene	660	ug/kg
Chrysene	90000	ug/kg
Dibenz(a,h)anthracene	660	ug/kg
Indeno(1,2,3-cd)pyrene	900	ug/kg

NOTE - All data has been validated

Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

LEGEND

Confirmation Sample --->

Documentation Sample below Cleanup Goals --->

Documentation Sample above Cleanup Goals --->

No Sample Taken - Excavation to Bedrock --->

502017

Confirmation and Documentation Sample Results for 204 East Camplain Road Grids A thru E-18

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0101-A18-F-39 7-7		FCS-OU1-9010-A18-F-39 7-7		FCS-OU1-0108-A18-F-36 8-7		FCS-OU1-0105-B18-F-38 5-7		FCS-OU1-0109-B18-F-36 8-7		FCS-OU1-0119-B18-F-29 5-7		FCS-OU1-0120-C18-F-29 5-7		FCS-OU1-0121-D18-F-28 0-7		GRID E18 - NO SAMPLE (BDRK)	
			4 ft BGS		4 ft BGS		7 ft BGS		7 ft BGS		8 ft BGS		16 ft BGS		15 ft BGS		13.5 ft BGS		22.5 ft BGS	
Benzo(a)anthracene	900	ug/kg	330	U	330	U	330	U	134	J	88	J	330	U	162	J	330	U		ND
Benzo(b)fluoranthene	900	ug/kg	330	U	330	U	330	U	264	J	126	J	330	U	127	J	330	U		ND
Benzo(k)fluoranthene	9000	ug/kg	330	U	330	U	330	U	176	J	98	J	330	U	112	J	330	U		ND
Benzo(a)pyrene	660	ug/kg	330	U	330	U	330	U	212	J	99	J	330	U	138	J	330	U		ND
Chrysene	90000	ug/kg	330	U	330	U	330	U	142	J	89	J	330	U	169	J	330	U		ND
Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U	330	U	82	J	330	U	330	U	330	U	330	U		ND
Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	330	U	330	U	145	J	330	U	330	U	80	J	330	U		ND

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0106-A18-NW-38 6-7		FCS-OU1-0107-B18-NW-38 6-7	
			5 ft BGS		6 ft BGS	
Benzo(a)anthracene	900	ug/kg	330	U	330	U
Benzo(b)fluoranthene	900	ug/kg	330	U	330	U
Benzo(k)fluoranthene	9000	ug/kg	330	U	330	U
Benzo(a)pyrene	660	ug/kg	330	U	330	U
Chrysene	90000	ug/kg	330	U	330	U
Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U
Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	330	U

"NOTE" - All data has been validated

Qualifiers

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

LEGEND

Confirmation Sample --->

Documentation Sample below Cleanup Goals --->

Documentation Sample above Cleanup Goals --->

No Sample Taken - Excavation to Bedrock --->

502018

Confirmation and Documentation Sample Results for 204 East Camplain Road Grids A thru E-19

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0099-A19-F-40 0-7	FCS-OU1-0104-B19-F-37 6-7	FCS-OU1-0116-B19-F-29 6-7	FCS-OU1-0116-B19-F-29 6-7	FCS-OU1-0181-D19-F-29 5-7	FCS-OU1-9016-D19-F-29 5-7	FCS-OU1-0131-E19-F-22 0-7
			4 ft BGS	7 ft BGS	15 ft BGS	14 ft BGS	11 ft BGS	11 ft BGS	17.5 ft BGS
Benzo(a)anthracene	900	ug/kg	330 U	371	330 U	661	330 U	330 U	330 U
Benzo(b)fluoranthene	900	ug/kg	330 U	453	330 U	627	330 U	330 U	330 U
Benzo(k)fluoranthene	9000	ug/kg	330 U	346	330 U	615	330 U	330 U	330 U
Benzo(a)pyrene	660	ug/kg	330 U	351	330 U	628	330 U	330 U	330 U
Chrysene	90000	ug/kg	330 U	412	330 U	785	330 U	330 U	330 U
Dibenz(a,h)anthracene	660	ug/kg	330 U	116 J	330 U	143 J	330 U	330 U	330 U
Indeno(1,2,3-cd)pyrene	900	ug/kg	330 U	203 J	330 U	281 J	330 U	330 U	330 U

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS
Benzo(a)anthracene	900	ug/kg
Benzo(b)fluoranthene	900	ug/kg
Benzo(k)fluoranthene	9000	ug/kg
Benzo(a)pyrene	660	ug/kg
Chrysene	90000	ug/kg
Dibenz(a,h)anthracene	660	ug/kg
Indeno(1,2,3-cd)pyrene	900	ug/kg

NOTE - All data has been validated

Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

LEGEND

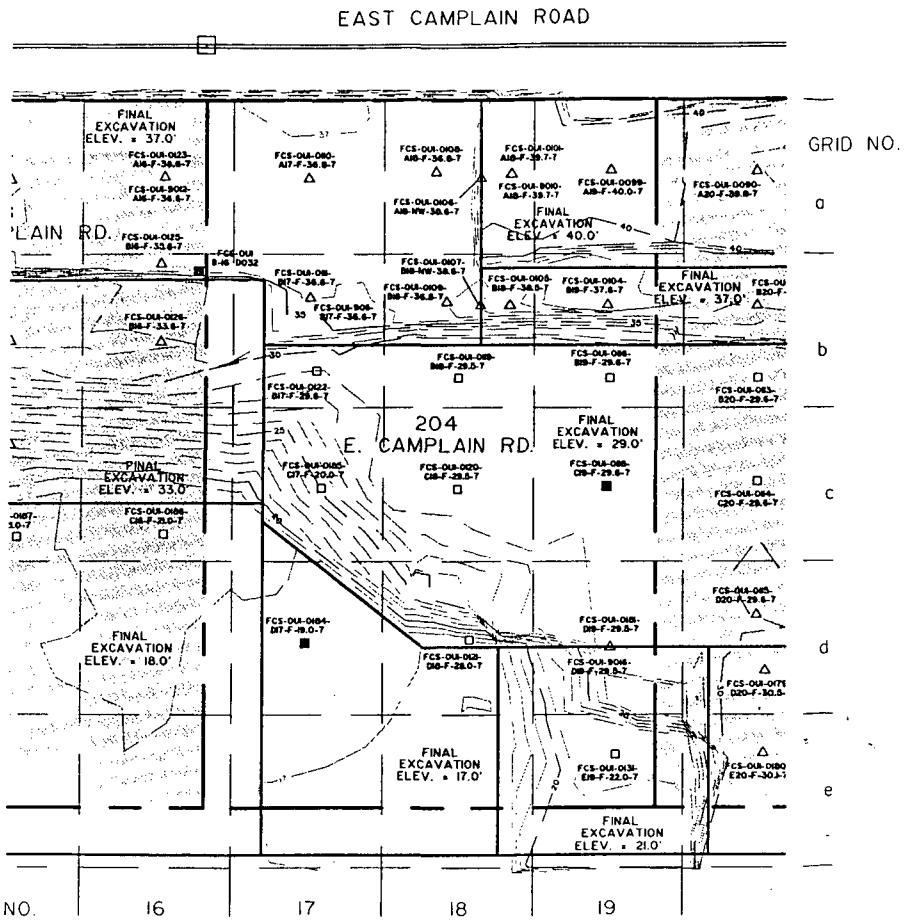
Confirmation Sample --->

Documentation Sample below Cleanup Goals --->

Documentation Sample above Cleanup Goals --->

No Sample Taken - Excavation to Bedrock --->

5020119



NORTH
NEW JERSEY STATE PLANE

LEGEND

- FINAL EXCAVATION CONTOURS
- PROPERTY LINES
- CURB LINE
- CONFIRMATION SAMPLE
- DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL
- DOCUMENTATION SAMPLE BELOW CLEANUP GOAL

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

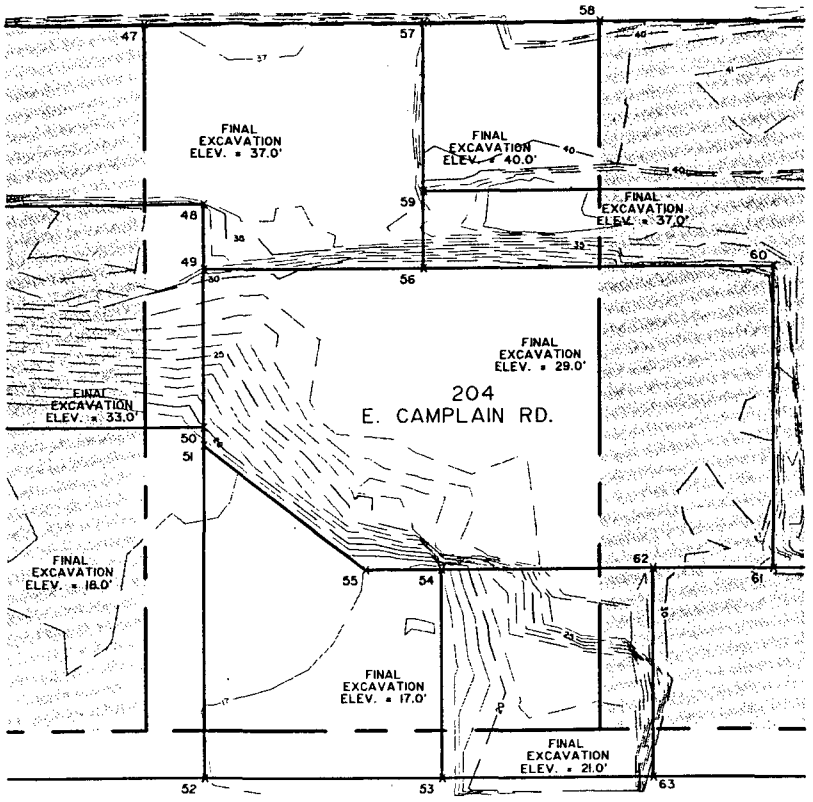
502020

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
204 E. CAMPLAIN ROAD
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.
6-07-02

EAST CAMPLAIN ROAD



NORTH AT NEW JERSEY STATE PLANE

FINAL EXCAVATION COORDINATES			
47	N 623169.7 E 469687.7	56	N 623180.0 E 469747.6
48	N 623158.6 E 469716.6	57	N 623205.2 E 469716.7
49	N 623151.9 E 469724.8	58	N 623227.8 E 469735.1
50	N 623135.6 E 469744.8	59	N 623187.9 E 469737.9
51	N 623133.8 E 469747.0	60	N 623224.7 E 469784.0
52	N 623099.41 E 469789.2	61	N 623193.6 E 469822.1
53	N 623129.9 E 469814.1	62	N 623178.4 E 469809.7
54	N 623151.4 E 469787.7	63	N 623156.9 E 469836.1
55	N 623141.5 E 469779.7		

LEGEND

38 — FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.

502021

EPA

US Army Corps of Engineers

FINAL EXCAVATION LIMITS

204 E. CAMPLAIN ROAD

FEDERAL CREOSOTE SUPERFUND SITE

BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J

8-06-02

Confirmation and Documentation Sample Results for 210 East Camplain Road Grids A thru E-19

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0099-A19-F-40.0-7	FCS-OU1-0104-B19-F-37.6-7	FCS-OU1-0116-B19-F-29.8-7	FCS-OU1-0118-C19-F-29.5-7	FCS-OU1-0181-D19-F-29.5-7	FCS-OU1-9016-D19-F-29.5-7	FCS-OU1-0131-E19-F-22.0-7
			4 ft BGS	7 ft BGS	15 ft BGS	14 ft BGS	11 ft BGS	11 ft BGS	18 ft BGS
Benzo(a)anthracene	900	ug/kg	330 U	371	330 U	627	330 U	330 U	330 U
Benzo(b)fluoranthene	900	ug/kg	330 U	453	330 U	627	330 U	330 U	330 U
Benzo(k)fluoranthene	9000	ug/kg	330 U	346	330 U	615	330 U	330 U	330 U
Benzo(a)pyrene	660	ug/kg	330 U	351	330 U	628	330 U	330 U	330 U
Chrysene	90000	ug/kg	330 U	412	330 U	785	330 U	330 U	330 U
Dibenz(a,h)anthracene	660	ug/kg	330 U	116 J	330 U	143 J	330 U	330 U	330 U
Indeno(1,2,3-cd)pyrene	900	ug/kg	330 U	203 J	330 U	281 J	330 U	330 U	330 U

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS
Benzo(a)anthracene	900	ug/kg
Benzo(b)fluoranthene	900	ug/kg
Benzo(k)fluoranthene	9000	ug/kg
Benzo(a)pyrene	660	ug/kg
Chrysene	90000	ug/kg
Dibenz(a,h)anthracene	660	ug/kg
Indeno(1,2,3-cd)pyrene	900	ug/kg

"NOTE" - All data has been validated

Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

LEGEND

Confirmation Sample --->

Documentation Sample below Cleanup Goals --->

Documentation Sample above Cleanup Goals --->

No Sample Taken - Excavation to Bedrock --->

502022

Confirmation and Documentation Sample Results for 210 East Camplain Road Grids A thru E-20

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0090-A20-F-39.8-7	FCS-OU1-0097-B20-F-37.6-7	FCS-OU1-0113-B20-F-29.6-7	FCS-OU1-0114-C20-F-29.6-7	FCS-OU1-0179-D20-F-30.5-7	FCS-OU1-0115-D20-F-29.6-7	FCS-OU1-0180-E20-F-30.1-7
			4 ft BGS	6 ft BGS	14 ft BGS	14 ft BGS	10 ft BGS	11 ft BGS	9 ft BGS
Benzo(a)anthracene	900	ug/kg	103 J	330 U	330 U	330 U	330 U	330 U	330 U
Benzo(b)fluoranthene	900	ug/kg	117 J	330 U	330 U	330 U	330 U	330 U	330 U
Benzo(k)fluoranthene	9000	ug/kg	96 J	330 U	330 U	330 U	330 U	330 U	330 U
Benzo(a)pyrene	660	ug/kg	89 J	330 U	330 U	330 U	330 U	330 U	330 U
Chrysene	90000	ug/kg	107 J	330 U	330 U	330 U	330 U	330 U	330 U
Dibenz(a,h)anthracene	660	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U
indeno(1,2,3-cd)pyrene	900	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS
Benzo(a)anthracene	900	ug/kg
Benzo(b)fluoranthene	900	ug/kg
Benzo(k)fluoranthene	9000	ug/kg
Benzo(a)pyrene	660	ug/kg
Chrysene	90000	ug/kg
Dibenz(a,h)anthracene	660	ug/kg
indeno(1,2,3-cd)pyrene	900	ug/kg

NOTE - All data has been validated

Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

LEGEND

Confirmation Sample --->

Documentation Sample below Cleanup Goals --->

Documentation Sample above Cleanup Goals --->

No Sample Taken - Excavation to Bedrock --->

502023

Confirmation and Documentation Sample Results for 210 East Camplain Road Grids A thru E-21

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0077-A21-F-39.8-7		FCS-OU1-0091-B21-F-38.0-7		FCS-OU1-9007-B21-F-38.0-7		FCS-OU1-0080-C21-F-37.5-7		FCS-OU1-0093-D21-F-34.0-7		FCS-OU1-9008-D21-F-34.0-7		FCS-OU1-0178-D21-F-30.7-7		FCS-OU1-0177-E21-F-30.1-7	
			4 ft BGS		6 ft BGS		6 ft BGS		5 ft BGS		6 ft BGS		6 ft BGS		9.5 ft BGS		9 ft BGS	
Benzo(a)anthracene	900	ug/kg	131	J	330	U	330	U	330	U	330	U	330	U	330	U	330	U
Benzo(b)fluoranthene	900	ug/kg	116	J	330	U	330	U	330	U	330	U	330	U	330	U	330	U
Benzo(k)fluoranthene	9000	ug/kg	137	J	330	U	330	U	330	U	330	U	330	U	330	U	330	U
Benzo(a)pyrene	660	ug/kg	118	J	330	U	330	U	330	U	330	U	330	U	330	U	330	U
Chrysene	90000	ug/kg	147	J	330	U	330	U	330	U	330	U	330	U	330	U	330	U
Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U	330	U	330	U	330	U	330	U	330	U	330	U
Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	330	U	330	U	330	U	330	U	330	U	330	U	330	U

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0081-C21-NW-38.5-7	
			4 ft BGS	
Benzo(a)anthracene	900	ug/kg	514	
Benzo(b)fluoranthene	900	ug/kg	714	
Benzo(k)fluoranthene	9000	ug/kg	450	
Benzo(a)pyrene	660	ug/kg	475	
Chrysene	90000	ug/kg	558	
Dibenz(a,h)anthracene	660	ug/kg	127	J
Indeno(1,2,3-cd)pyrene	900	ug/kg	219	J

NOTE - All data has been validated

Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

LEGEND

Confirmation Sample --->

Documentation Sample below Cleanup Goals --->

Documentation Sample above Cleanup Goals --->

No Sample Taken - Excavation to Bedrock --->

502024

Confirmation and Documentation Sample Results for 210 East Camplain Road Grids A thru E-22

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0075-A22-F-39.8-7		FCS-OU1-0074-B22-F-39.8-7		FCS-OU1-0022-C22-F-39.8-7		FCS-OU1-0175-D22-F-30.4-7		FCS-OU1-0176-E22-F-30.5-7	
			4 ft BGS		3 ft BGS		2 ft BGS		9 ft BGS		8 ft BGS	
Benzo(a)anthracene	900	ug/kg	330	U	98	J	330	U	110	J	330	U
Benzo(b)fluoranthene	900	ug/kg	330	U	135	J	330	U	330	U	330	U
Benzo(k)fluoranthene	9000	ug/kg	330	U	130	J	330	U	330	U	330	U
Benzo(a)pyrene	660	ug/kg	330	U	110	J	330	U	330	U	330	U
Chrysene	90000	ug/kg	330	U	123	J	330	U	330	U	330	U
Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U	330	U	330	U	330	U
Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	330	U	330	U	330	U	330	U

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0095-C22-WW-38.0-7		FCS-OU1-9009-C22-WW-38.0-7	
			4 ft BGS		3 ft BGS	
Benzo(a)anthracene	900	ug/kg	216	J	230	J
Benzo(b)fluoranthene	900	ug/kg	268	J	355	J
Benzo(k)fluoranthene	9000	ug/kg	236	J	232	J
Benzo(a)pyrene	660	ug/kg	230	J	271	J
Chrysene	90000	ug/kg	220	J	258	J
Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U
Indeno(1,2,3-cd)pyrene	900	ug/kg	130	J	151	J

NOTE - All data has been validated

Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

LEGEND

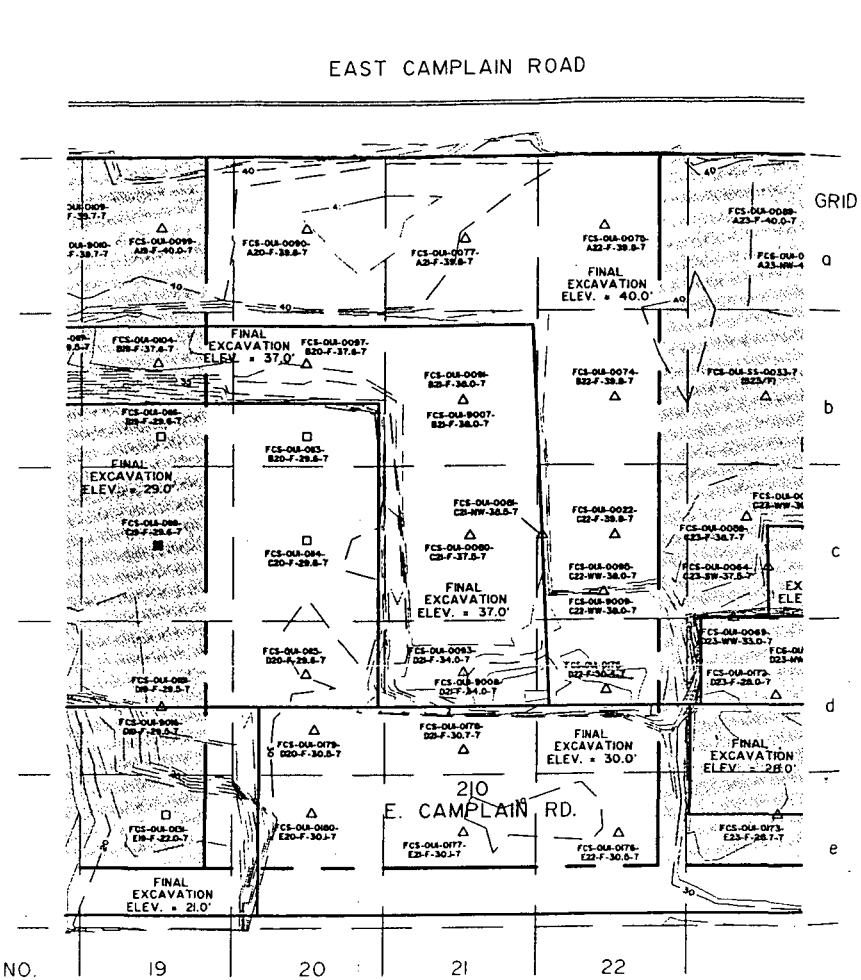
Confirmation Sample --->

Documentation Sample below Cleanup Goals --->

Documentation Sample above Cleanup Goals --->

No Sample Taken - Excavation to Bedrock --->

502025



NORTH NEW JERSEY STATE PLANE

LEGEND

- FINAL EXCAVATION CONTOURS
- PROPERTY LINES
- CURB LINE
- XXXX CONFIRMATION SAMPLE
- XXXX DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
- XXXX DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.

502026

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS

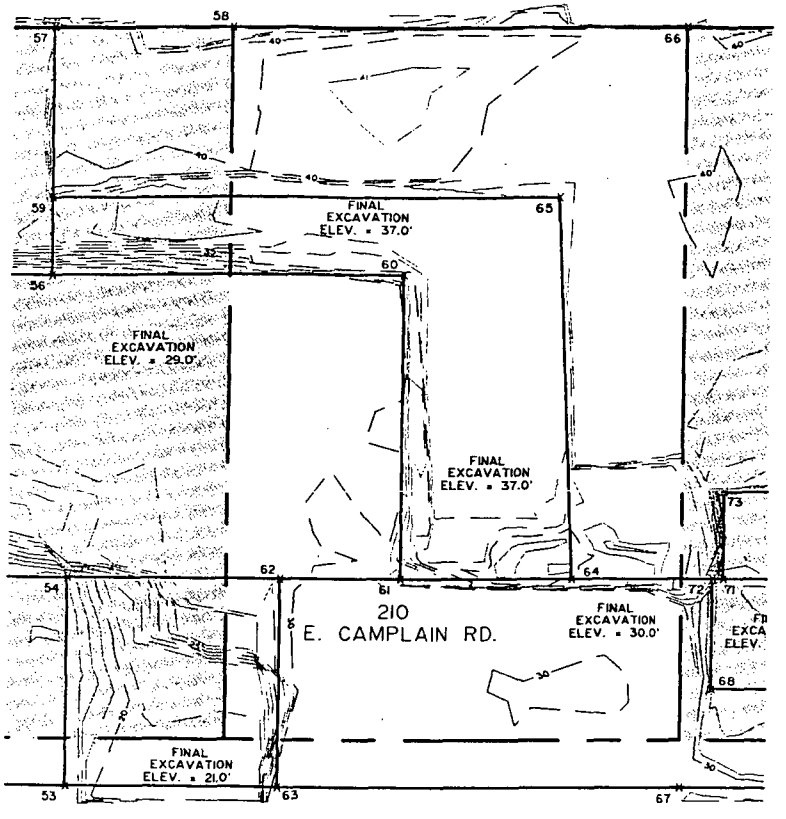
210 E. CAMPLAIN ROAD

FEDERAL CREOSOTE SUPERFUND SITE

BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

8-06-03

EAST CAMPLAIN ROAD



NORTH NEW JERSEY STATE PLANE

FINAL EXCAVATION COORDINATES			
53	N 623129.9 E 469814.1	63	N 623156.9 E 469836.1
54	N 623151.4 E 469787.7	64	N 623215.3 E 469839.8
56	N 623180.0 E 469747.6	65	N 623252.2 E 469790.4
57	N 623205.2 E 469716.7	66	N 623285.9 E 469782.5
58	N 623227.8 E 469735.1	67	N 623208.2 E 469877.9
59	N 623187.9 E 469737.9	68	N 623222.2 E 469868.6
60	N 623224.7 E 469784.0	71	N 623234.9 E 469855.7
61	N 623193.6 E 469822.1	72	N 623233.6 E 469854.6
62	N 623178.4 E 469809.7	73	N 623243.8 E 469844.8

LEGEND

-30- FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.

502027

EPA

US Army Corps of Engineers

FINAL EXCAVATION LIMITS

210 E. CAMPLAIN ROAD

FEDERAL CREOSOTE SUPERFUND SITE

BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

8-05-02

Confirmation and Documentation Sample Results for 216 East Camplain Road Grids A thru E-22

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0075-A22-F-39.8-7		FCS-OU1-0074-B22-F-39.8-7		FCS-OU1-0022-C22-F-39.8-7		FCS-OU1-0175-D22-F-30.4-7		FCS-OU1-0176-E22-F-30.5-7	
			4 ft BGS		3 ft BGS		2 ft BGS		9 ft BGS		8 ft BGS	
Benzo(a)anthracene	900	ug/kg	330	U	98	J	330	U	110	J	330	U
Benzo(b)fluoranthene	900	ug/kg	330	U	135	J	330	U	330	U	330	U
Benzo(k)fluoranthene	9000	ug/kg	330	U	130	J	330	U	330	U	330	U
Benzo(a)pyrene	660	ug/kg	330	U	110	J	330	U	330	U	330	U
Chrysene	90000	ug/kg	330	U	123	J	330	U	330	U	330	U
Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U	330	U	330	U	330	U
Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	330	U	330	U	330	U	330	U

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0095-C22-WW-38.0-7		FCS-OU1-9009-C22-WW-38.0-7	
			4 ft BGS		3 ft BGS	
Benzo(a)anthracene	900	ug/kg	216	J	230	J
Benzo(b)fluoranthene	900	ug/kg	268	J	355	J
Benzo(k)fluoranthene	9000	ug/kg	236	J	232	J
Benzo(a)pyrene	660	ug/kg	230	J	271	J
Chrysene	90000	ug/kg	220	J	258	J
Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U
Indeno(1,2,3-cd)pyrene	900	ug/kg	130	J	151	J

NOTE - All data has been validated

Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

LEGEND

Confirmation Sample --->

Documentation Sample below Cleanup Goals --->

Documentation Sample above Cleanup Goals --->

No Sample Taken - Excavation to Bedrock --->

502028

Confirmation and Documentation Sample Results for 216 East Camplain Road Grids A thru E-23

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0039-A23-F-40.0-7		FCS-OU1-SS-0033-7 (B23/F)		FCS-OU1-0059-C23-F-38.7-7		FCS-OU1-0172-D23-F-28.0-7		FCS-OU1-0173-E23-F-28.7-7	
			4 ft BGS		4 ft BGS		4 ft BGS		12 ft BGS		10 ft BGS	
Benzo(a)anthracene	900	ug/kg	549		186	J	107	J	330	U	330	U
Benzo(b)fluoranthene	900	ug/kg	484		335		110	J	330	U	330	U
Benzo(k)fluoranthene	9000	ug/kg	551		192	J	144	J	330	U	330	U
Benzo(a)pyrene	660	ug/kg	446		206	J	119	J	330	U	330	U
Chrysene	90000	ug/kg	590		203	J	87	J	330	U	330	U
Dibenz(a,h)anthracene	660	ug/kg	146	J	330	U	330	U	330	U	330	U
Indeno(1,2,3-cd)pyrene	900	ug/kg	254	J	77	J	330	U	330	U	330	U

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0041-A23-NW-41.5-7		FCS-OU1-0058-C23-NW-39.2-7		FCS-OU1-0057-C23-WW-39.2-7		FCS-OU1-0064-C23-SW-37.5-7		FCS-OU1-0068-D23-NW-29.8-7		FCS-OU1-0069-D23-WW-33.0-7	
			2 ft BGS		4 ft BGS		4 ft BGS		7 ft BGS		10 ft BGS		7 ft BGS	
Benzo(a)anthracene	900	ug/kg	82	J	330	U	330	U	86	J	330	U	330	U
Benzo(b)fluoranthene	900	ug/kg	330	U	330	U	330	U	330	U	330	U	330	U
Benzo(k)fluoranthene	9000	ug/kg	330	U	330	U	330	U	330	U	330	U	330	U
Benzo(a)pyrene	660	ug/kg	330	U	330	U	330	U	330	U	330	U	330	U
Chrysene	90000	ug/kg	330	U	330	U	330	U	330	U	330	U	330	U
Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U	330	U	330	U	330	U	330	U
Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	330	U	330	U	330	U	330	U	330	U

NOTE - All data has been validated

Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

LEGEND

Confirmation Sample --->

Documentation Sample below Cleanup Goals --->

Documentation Sample above Cleanup Goals --->

No Sample Taken - Excavation to Bedrock --->

502029

Confirmation and Documentation Sample Results for 216 East Camplain Road Grids A thru E-24

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-SS-0001-7 (A24/F)	FCS-OU1-SS-0008-7 (B24/F)	FCS-OU1-0060-C24-F-39.0-7	FCS-OU1-9004-C24-F-39.0-7	FCS-OU1-9005-C24-F-39.0-7	FCS-OU1-0065-D24-F-30.0-7	FCS-OU1-0170-E24-F-28.2-7
			4 ft BGS	4 ft BGS	4 ft BGS	4 ft BGS	4 ft BGS	10 ft BGS	12 ft BGS
Benzo(a)anthracene	900	ug/kg	399	330 U	86 J	121 J	330 U	330 U	330 U
Benzo(b)fluoranthene	900	ug/kg	519	330 U	330 U	86 J	330 U	330 U	330 U
Benzo(k)fluoranthene	9000	ug/kg	423	330 U	330 U	78 J	330 U	330 U	330 U
Benzo(a)pyrene	660	ug/kg	463	330 U	330 U	330 U	330 U	330 U	330 U
Chrysene	90000	ug/kg	434	330 U	330 U	90 J	330 U	330 U	330 U
Dibenz(a,h)anthracene	660	ug/kg	183 J	330 U	330 U	330 U	330 U	330 U	330 U
Indeno(1,2,3-cd)pyrene	900	ug/kg	262 J	330 U	330 U	330 U	330 U	330 U	330 U

SIDEWALL SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-0063-C24-NW-39.5-7	FCS-OU1-0049-C24-EW-38.0-7
			4 ft BGS	*5 ft BGS*
Benzo(a)anthracene	900	ug/kg	330 U	86 J
Benzo(b)fluoranthene	900	ug/kg	330 U	330 U
Benzo(k)fluoranthene	9000	ug/kg	330 U	330 U
Benzo(a)pyrene	660	ug/kg	330 U	330 U
Chrysene	90000	ug/kg	330 U	330 U
Dibenz(a,h)anthracene	660	ug/kg	330 U	330 U
Indeno(1,2,3-cd)pyrene	900	ug/kg	330 U	330 U

NOTE - All data has been validated

Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

LEGEND

Confirmation Sample --->

Documentation Sample below Cleanup Goals --->

Documentation Sample above Cleanup Goals --->

No Sample Taken - Excavation to Bedrock --->

502030

Confirmation and Documentation Sample Results for 216 East Camplain Road Grids A thru E-25

BOTTOM SAMPLES

COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-SS-0003-7 (A25/F) 4 ft BGS		FCS-OU1-SS-0024-7 (B25/F) 4 ft BGS		FCS-OU1-0042-C25-F-39.0-7 3 ft BGS		FCS-OU1-0044-C25-F-37.5-7 5 ft BGS		FCS-OU1-0055-D25-F-30.4-7 10 ft BGS		FCS-OU1-0168-E25-F-30.5-7 8 ft BGS	
Benzo(a)anthracene	900	ug/kg	330	U	330	U	330	U	489		330	U	330	U
Benzo(b)fluoranthene	900	ug/kg	88	J	91	J	330	U	494		330	U	330	U
Benzo(k)fluoranthene	9000	ug/kg	330	U	330	U	330	U	529		330	U	330	U
Benzo(a)pyrene	660	ug/kg	330	U	330	U	330	U	490		330	U	330	U
Chrysene	90000	ug/kg	78	J	330	U	330	U	609		330	U	330	U
Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U	330	U	140	J	330	U	330	U
Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	330	U	330	U	239	J	330	U	330	U

SIDEWALL SAMPLES

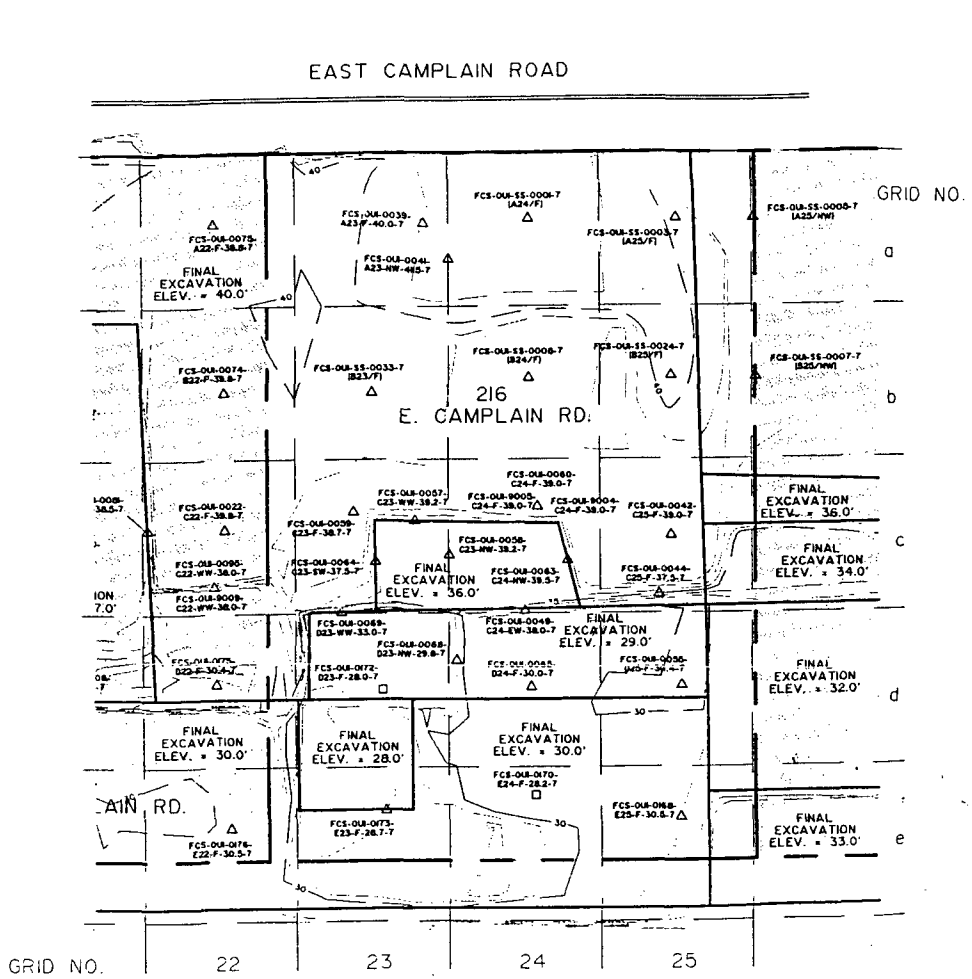
COMPOUND	CLEANUP GOALS	UNITS	FCS-OU1-SS-0005-7 (A25/NW) 2 ft BGS		FCS-OU1-SS-0007-7 (B25/NW) 2 ft BGS		FCS-OU1-0043-C25-WW-39.6-7 3 ft BGS		FCS-OU1-0045-C25-WW-38.6-7 4 ft BGS	
Benzo(a)anthracene	900	ug/kg	271	J	276	J	330	U	330	U
Benzo(b)fluoranthene	900	ug/kg	379		230	J	330	U	330	U
Benzo(k)fluoranthene	9000	ug/kg	268	J	222	J	330	U	330	U
Benzo(a)pyrene	660	ug/kg	310	J	200	J	330	U	330	U
Chrysene	90000	ug/kg	321	J	289	J	330	U	330	U
Dibenz(a,h)anthracene	660	ug/kg	155	J	133	J	330	U	330	U
Indeno(1,2,3-cd)pyrene	900	ug/kg	189	J	125	J	330	U	330	U

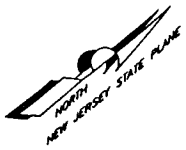
NOTE - All data has been validated

Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

LEGEND
Confirmation Sample --->
Documentation Sample below Cleanup Goals --->
Documentation Sample above Cleanup Goals --->
No Sample Taken - Excavation to Bedrock --->

502031





LEGEND

- FINAL EXCAVATION CONTOURS
- PROPERTY LINES
- CURB LINE
- CONFIRMATION SAMPLE
- DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL
- DOCUMENTATION SAMPLE BELOW CLEANUP GOAL

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.

502032

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS

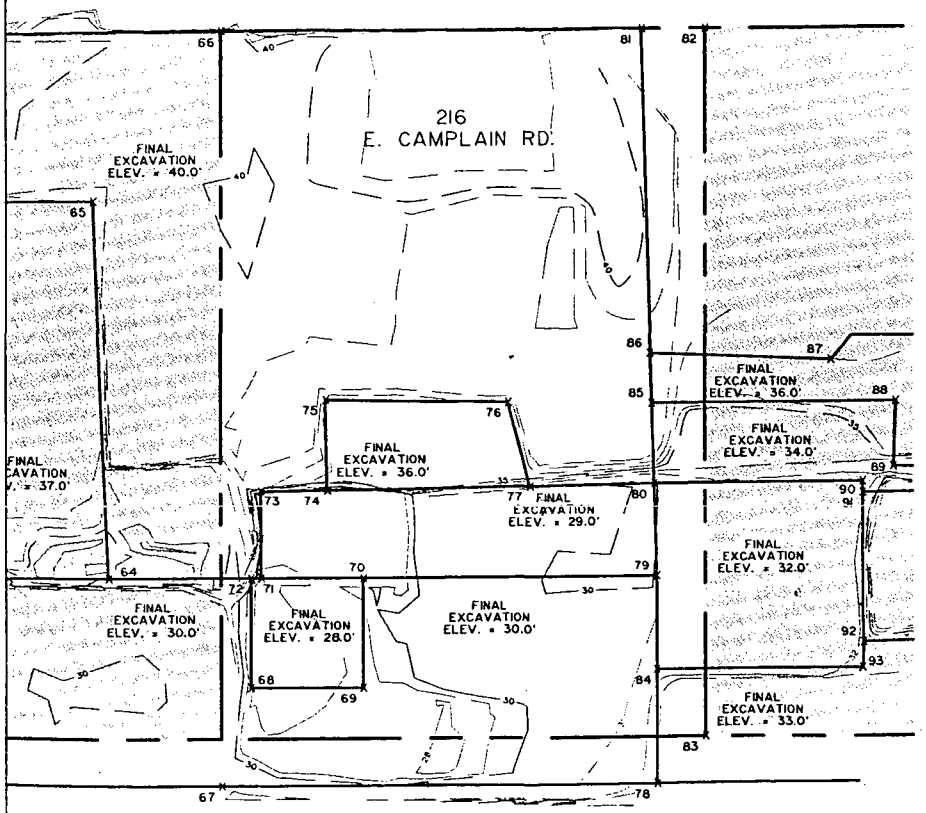
216 E. CAMPLAIN ROAD

FEDERAL CREOSOTE SUPERFUND SITE

BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

8-15-02

EAST CAMPLAIN ROAD



NORTH
NEW JERSEY STATE PLANE

FINAL EXCAVATION COORDINATES			
64	N 623215.3 E 469839.8	79	N 623285.1 E 469896.6
65	N 623252.2 E 469790.4	80	N 623294.7 E 469885.1
66	N 623285.9 E 469782.5	81	N 623339.9 E 469826.5
67	N 623208.2 E 469877.9	82	N 623347.9 E 469833.1
68	N 623222.2 E 469868.6	83	N 623740.2 E 470301.4
69	N 623236.6 E 469880.4	84	N 623275.9 E 469908.8
70	N 623248.0 E 469866.5	85	N 623302.7 E 469874.7
71	N 623234.9 E 469855.7	86	N 623307.7 E 469868.3
72	N 623233.6 E 469854.6	87	N 623330.0 E 469888.0
73	N 623243.8 E 469844.8	88	N 623334.0 E 469900.0
74	N 623252.5 E 469851.6	89	N 623327.0 E 469908.0
75	N 623261.6 E 469840.1	90	N 623321.45 E 469906.6
76	N 623284.6 E 469859.5	91	N 623320.3 E 469908.0
77	N 623278.7 E 469872.4	92	N 623305.0 E 469927.0
78	N 623264.1 E 469923.4	93	N 623302.2 E 469930.2

LEGEND

-38- FINAL EXCAVATION CONTOURS
PROPERTY LINES
CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

502033

EPA
US Army Corps of Engineers

FINAL EXCAVATION LIMITS
216 E. CAMPLAIN ROAD
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.
8-06-02

Appendix K

Sevenson Environmental Services, Inc.

- INSPECTION SUMMARY FORM
- SITE INSPECTION FORM

Sevenson Environmental Services, Inc.
Health and Safety Site Inspection Form

Inspector: Paul J. Hitcho Inspection Date: April 24, 2002

Section 1: Project Description

Project Name: Federal Creosote
Site Location: Manville, NJ
Project Number:
Project Manager: Gordon McDonald
Superintendent: Perry Novak
Site Safety and Health Officer (SSHO): Eric Tschudi

Operations:

- ☐ Industrial Operations
- ☒ Remedial Operations
- ☐ Dewatering Operations
- ☐ Drum Handling Operations
- ☐ Drilling Operations
- ☐ Other:
- ☐ Emergency Response
- ☒ Excavation/Trenching/Shoring
- ☐ Confined Space Entry
- ☐ Thermal Desorption Operations
- ☐ Decontamination Operations

Section 2: General Site Setup/Support Zone

A. Site Setup

1.	Are work zones clearly defined?	☒ YES	☐ NO	☐ N/A
2.	Are support trailers located to minimize exposure from a potential release?	☒ YES	☐ NO	☐ N/A
3.	Are support trailers accessible for approach by emergency vehicles?	☒ YES	☐ NO	☐ N/A
4.	Is the site properly secured during and after work hours?	☒ YES	☐ NO	☐ N/A
5.	Are adequate communications (telephones, radios) available on site?	☒ YES	☐ NO	☐ N/A
6.	Is drinking water available?	☒ YES	☐ NO	☐ N/A
7.	Are adequate toilet facilities available on site?	☒ YES	☐ NO	☐ N/A
8.	Are eating and food storage areas clean and maintained?	☒ YES	☐ NO	☐ N/A
9.	Is there adequate lighting?	☒ YES	☐ NO	☐ N/A
10.	Are Lock-Out/Tag-Out Kits available on site?	☒ YES	☐ NO	☐ N/A
11.	Do all site personnel have a 40 hour certificate?	☒ YES	☐ NO	☐ N/A
12.	Do Managers and/or Supervisors have a certificate for the 8 hours of additional training?	☒ YES	☐ NO	☐ N/A

502036

13. Have all site personnel received medical surveillance in the previous 12 months? ☒ YES ☐ NO ☐ N/A
14. Are disposal arrangements in place for spent PPE and decontamination wash waters? ☒ YES ☐ NO ☐ N/A
15. Is all of the emergency and first aid equipment that is identified in the Site HASP available on site? ☒ YES ☐ NO ☐ N/A
16. Does the SSHO conduct daily safety inspections which are documented to identify safety hazards and unsafe conditions? ☒ YES ☐ NO ☐ N/A
17. Are accident/injury investigation forms available? ☒ YES ☐ NO ☐ N/A
18. Are all known safety hazards and unsafe conditions corrected? ☒ YES ☐ NO ☐ N/A

B. Health and Safety Plan

1. Is a Site HASP accessible to all employees? ☒ YES ☐ NO ☐ N/A
2. Has the Site HASP been briefed to employees on site? ☒ YES ☐ NO ☐ N/A
3. Are the MSDSs available for review by employees on site? ☒ YES ☐ NO ☐ N/A
4. Is there a designated SSHO on site? ☒ YES ☐ NO ☐ N/A
5. Are employees aware and understand the results of exposure? ☒ YES ☐ NO ☐ N/A
6. Is the air monitoring plan in place? ☒ YES ☐ NO ☐ N/A
7. Are air monitoring devices properly used, calibrated and maintained? ☒ YES ☐ NO ☐ N/A
8. Are air monitoring results logged and available for review? ☒ YES ☐ NO ☐ N/A
9. Does the Site HASP include the following:
   - Site Characterization, description of existing conditions. ☒ YES ☐ NO ☐ N/A
   - Personnel training requirements. ☒ YES ☐ NO ☐ N/A
   - A written PPE program describing the types and usage. ☒ YES ☐ NO ☐ N/A
   - Listing of PPE required for each site task. ☒ YES ☐ NO ☐ N/A
   - Is there a hazard/risk analysis for all site activities? ☒ YES ☐ NO ☐ N/A
   - Are the frequency and types of air monitoring presented? ☒ YES ☐ NO ☐ N/A
   - Are both personnel and equipment decontamination procedures presented? ☒ YES ☐ NO ☐ N/A
   - Is an emergency response plan presented? ☒ YES ☐ NO ☐ N/A
   - Are the medical surveillance requirements presented? ☒ YES ☐ NO ☐ N/A
   - Has the nearest medical assistance been identified? ☒ YES ☐ NO ☐ N/A
   - Is there a discussion of site control measures (i.e., fencing, security, work zones)? ☒ YES ☐ NO ☐ N/A
   - Description of confined space entry procedures (if this work will occur). ☒ YES ☐ NO ☐ N/A
   - Has a spill containment program been included? ☒ YES ☐ NO ☐ N/A
   - *Is the Sevenson Corporate HASP available for all pertinent activities?* ☒ YES ☐ NO ☐ N/A
   - Are the programs and procedures presented in the Site and Corporate HASP being followed? ☒ YES ☐ NO ☐ N/A
   - Have site personnel received training as outlined in the Site HASP? ☒ YES ☐ NO ☐ N/A

C. Site Posters

1. Are the following documents posted in a prominent and accessible area?
   - ☒ Department of Labor 5 – 1 Poster ☒ YES ☐ NO ☐ N/A
   - ☒ OSHA 300 Log ☒ YES ☐ NO ☐ N/A

502037

D. Emergency Plans

1.	Are emergency telephone numbers posted and verified?	☒ YES	☐ NO	☐ N/A
2.	Have emergency escape routes been designated?	☒ YES	☐ NO	☐ N/A
3.	Are employees familiar with the emergency signals?	☒ YES	☐ NO	☐ N/A
4.	Is the hospital route posted?	☒ YES	☐ NO	☐ N/A
5.	Are employees familiar with emergency procedures?	☒ YES	☐ NO	☐ N/A
6.	Is the inventory of emergency response equipment and supplies adequate?	☒ YES	☐ NO	☐ N/A

E. Medical and First Aid

1.	Are First Aid Kits accessible and identified?	☒ YES	☐ NO	☐ N/A
2.	Are emergency eye washes available and in proper working order?	☒ YES	☐ NO	☐ N/A
3.	Are emergency showers available?	☒ YES	☐ NO	☐ N/A
4.	Are the First Aid Kits large enough for the number of people on site?	☒ YES	☐ NO	☐ N/A
5.	Are the First Aid Kits inspected after each use?	☒ YES	☐ NO	☐ N/A
6.	Are there First Aid/CPR trained personnel available?	☒ YES	☐ NO	☐ N/A
7.	Is a heat/cold stress monitoring program in place?	☒ YES	☐ NO	☐ N/A
8.	Have First Aid/CPR trained personnel received Blood Born Pathogen training?	☐ YES	☒ NO	☐ N/A
9.	Have First Aid/CPR trained personnel been offered the Hepatitis B Vaccination shot?	☐ YES	☒ NO	☐ N/A
10.	Is there a written record of available if the Employee declines the shot?	☐ YES	☒ NO	☐ N/A

F. Fire Protection

1.	Has a fire alarm been established?	☒ YES	☐ NO	☐ N/A
2.	Do employees know the location and use of all fire extinguishers on site?	☒ YES	☐ NO	☐ N/A
3.	Are fire extinguishers marked and inspected monthly?	☒ YES	☐ NO	☐ N/A
4.	Are combustible materials segregated from open flames?	☒ YES	☐ NO	☐ N/A

G. Fire Prevention

1.	Has a smoking policy been established?	☒ YES	☐ NO	☐ N/A
2.	Is smoking prohibited in flammable storage areas?	☒ YES	☐ NO	☐ N/A
3.	Are fire lanes established and maintained?	☐ YES	☐ NO	☒ N/A
4.	Are flammable dispensing systems grounded and bonded?	☒ YES	☐ NO	☐ N/A
5.	Are proper receptacles (i.e., safety cans, cabinets) available for the storage of flammables?	☒ YES	☐ NO	☐ N/A
6.	Are gasoline cans of the proper type (not plastic?)	☒ YES	☐ NO	☐ N/A
7.	Has the local fire department been contacted?	☒ YES	☐ NO	☐ N/A
8.	Is ground and bonding equipment available?	☒ YES	☐ NO	☐ N/A
9.	Are fuel tanks properly contained with a dike?	☒ YES	☐ NO	☐ N/A
10.	Is the dyke capable of holding quantities being contained?	☒ YES	☐ NO	☐ N/A

502038

Section 3: Work Areas/Contamination Reduction Zone/Exclusion Zone

H. Walking and Working Surfaces

1.	Are accessways, stairways, ramps, and ladders clean of ice, mud, snow, or debris?	☒ YES	☐ NO	☐ N/A
2.	Are ladders within maximum length requirements?	☒ YES	☐ NO	☐ N/A
3.	Are ladders properly barricaded if used in passageways, doors, or driveways?	☒ YES	☐ NO	☐ N/A
4.	Are broken or damaged ladders tagged and taken out of service?	☒ YES	☐ NO	☐ N/A
5.	Are metal ladders prohibited in electrical service areas?	☒ YES	☐ NO	☐ N/A
6.	Are stairways and floor openings guarded?	☒ YES	☐ NO	☐ N/A
7.	Are safety feet installed on straight and extension ladders?	☒ YES	☐ NO	☐ N/A
8.	Is general housekeeping up to our standards?	☒ YES	☐ NO	☐ N/A
9.	Are fall protection devices available on site?	☒ YES	☐ NO	☐ N/A
10.	Are fall protection devices properly used and maintained?	☒ YES	☐ NO	☐ N/A
11.	Are ladders secured when in use?	☒ YES	☐ NO	☐ N/A
12.	Is there a written Fall Protection Plan?	☒ YES	☐ NO	☐ N/A
13.	Have employees received training in Fall Protection?	☒ YES	☐ NO	☐ N/A

I. Materials Handling

1.	Are materials stacked and stored as to prevent sliding or collapsing?	☒ YES	☐ NO	☐ N/A
2.	Are flammables and combustibles stored in non-smoking areas?	☒ YES	☐ NO	☐ N/A
3.	Is machinery braced and lock-out/tag-out procedures in place?	☒ YES	☐ NO	☐ N/A
4.	Are tripping hazards labeled?	☒ YES	☐ NO	☐ N/A
5.	Are riders prohibited on materials handling equipment?	☒ YES	☐ NO	☐ N/A
6.	Are OSHA approved manlifts provided for the lifting of personnel?	☒ YES	☐ NO	☐ N/A
7.	Are all containers labeled as to contents?	☒ YES	☐ NO	☐ N/A
8.	Are flammable liquids stored in approved safety cans?	☒ YES	☐ NO	☐ N/A
9.	Are hoses secured and in good condition?	☒ YES	☐ NO	☐ N/A
10.	If powered industrial trucks or fork lifts including "off road" forklifts are used, have operators been certified?	☒ YES	☐ NO	☐ N/A

J. Hand and Power Tools

1.	Are defective hand and power tools tagged and taken out of service?	☒ YES	☐ NO	☐ N/A
2.	Is eye protection available and used when operating power tools?	☒ YES	☐ NO	☐ N/A
3.	Are guards and safety devices in place on power tools?	☒ YES	☐ NO	☐ N/A
4.	Are hand and power tools inspected before each use?	☒ YES	☐ NO	☐ N/A
5.	Are spark-resistant tools available?	☐ YES	☐ NO	☒ N/A
6.	Are extension cords in good repair?	☒ YES	☐ NO	☐ N/A

K. Slings and Chains ☐ N/A

1.	Are damaged slings, chains, and rigging tagged and taken out of service?	☒ YES	☐ NO	☐ N/A
2.	Are slings inspected before each use?	☒ YES	☐ NO	☐ N/A
3.	Are slings padded or protected from sharp corners?	☒ YES	☐ NO	☐ N/A

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4.	Do employees keep clear of suspended loads?	☒ YES	☐ NO	☐ N/A

L. Personal Protective Equipment (PPE)

1.	Have levels of PPE been established?	☒ YES	☐ NO	☐ N/A
2.	Do all employees know their level of protection?	☒ YES	☐ NO	☐ N/A
3.	Have respirator wearers been fit tested in the past year?	☒ YES	☐ NO	☐ N/A
4.	Are respirators used, decontaminated, inspected, and stored according to standard procedures?	☒ YES	☐ NO	☐ N/A
5.	Is defective PPE tagged?	☒ YES	☐ NO	☐ N/A
6.	Does compressed breathing air meet CGA Grade "D" minimum?	☐ YES	☐ NO	☒ N/A
7.	Are airlines monitored and protected?	☐ YES	☐ NO	☒ N/A
8.	Are there sufficient quantities of safety equipment and repair parts?	☒ YES	☐ NO	☐ N/A
9.	Is PPE and respiratory equipment properly used and maintained?	☒ YES	☐ NO	☐ N/A
10.	Is hearing protection available for high noise?	☒ YES	☐ NO	☐ N/A
11.	Is all PPE that has been used either disposed of or thoroughly cleaned prior to removal from any exclusion zone?	☒ YES	☐ NO	☐ N/A
12.	Is there an adequate supply of PPE available?	☒ YES	☐ NO	☐ N/A
13.	Are donning and doffing procedures identified?	☒ YES	☐ NO	☐ N/A
14.	If SCBAs are on site, are they being inspected at least monthly?	☒ YES	☐ NO	☐ N/A

M. Electrical

1.	Are warning signs exhibited on high voltage equipment (>250V)?	☒ YES	☐ NO	☐ N/A
2.	Is electrical equipment and wiring properly guarded?	☒ YES	☐ NO	☐ N/A
3.	Are electrical lines, extension cords, and cables guarded and maintained in good condition?	☒ YES	☐ NO	☐ N/A
4.	Are extension cords kept out of wet areas?	☒ YES	☐ NO	☐ N/A
5.	Is damaged electrical equipment tagged and taken out of service?	☒ YES	☐ NO	☐ N/A
6.	Have underground electrical lines and utilities been identified by proper authorities?	☒ YES	☐ NO	☐ N/A
7.	Are qualified electricians only allowed to work on electrical systems?	☒ YES	☐ NO	☐ N/A
8.	Are lock-out/tag-out procedures in place when working with electrical systems?	☒ YES	☐ NO	☐ N/A
9.	Are ground fault interrupter circuits used on all outdoor electrical hook-ups?	☒ YES	☐ NO	☐ N/A
10.	Have the GFCIs been tested?	☒ YES	☐ NO	☐ N/A
11.	Are there any open, exposed electrical panels on site?	☐ YES	☒ NO	☐ N/A

N. Compressed Gas Cylinders ☐ N/A

1.	Are breathing air cylinders charged only to prescribed pressures?	☐ YES	☐ NO	☒ N/A
2.	Are like cylinders segregated in well ventilated areas?	☒ YES	☐ NO	☐ N/A
3.	Is smoking prohibited in cylinder storage areas?	☒ YES	☐ NO	☐ N/A
4.	Are cylinders stored securely and upright?	☒ YES	☐ NO	☐ N/A
5.	Are cylinders protected from snow, rain, etc.?	☐ YES	☒ NO	☐ N/A
6.	Are cylinder caps in place before cylinders are moved?	☒ YES	☐ NO	☐ N/A
7.	Are fuel gas and O2 cylinders stored a minimum of 20 feet apart?	☒ YES	☐ NO	☐ N/A

O. Scaffolding ☐ N/A

1.	Is scaffolding placed on a flat, firm surface?	☒ YES	☐ NO	☐ N/A
2.	Are scaffolding planks free of mud, ice, grease, etc.?	☒ YES	☐ NO	☐ N/A
3.	Is scaffolding inspected before each use?	☒ YES	☐ NO	☐ N/A
4.	Are defective scaffolding parts taken out of service?	☒ YES	☐ NO	☐ N/A
5.	Does scaffold height exceed 4 times the width or base dimension?	☐ YES	☒ NO	☐ N/A
6.	Does scaffold planking overlap a minimum of 12 inches?	☐ YES	☐ NO	☒ N/A
7.	Does scaffold planking extend over end supports between 6 to 18 inches?	☐ YES	☐ NO	☒ N/A
8.	Are employees restricted from working on scaffold during storms and high winds?	☒ YES	☐ NO	☐ N/A
9.	Are all pins in place and wheels locked?	☒ YES	☐ NO	☐ N/A

P. Personnel Decontamination ☐ N/A

1.	Are decontamination stations set-up on site?	☒ YES	☐ NO	☐ N/A
2.	Is a contamination reduction zone set-up on site?	☒ YES	☐ NO	☐ N/A
3.	Are waste receptacles available for contaminated PPE?	☒ YES	☐ NO	☐ N/A
4.	Are steps taken to contain liquids used for decon?	☒ YES	☐ NO	☐ N/A
5.	Have decontamination steps and procedures been covered by the SSHO in site briefings?	☒ YES	☐ NO	☐ N/A
6.	Is all PPE and respiratory equipment cleaned daily?	☒ YES	☐ NO	☐ N/A

Q. Equipment Decontamination ☐ N/A

1.	Has an equipment decon been established?	☒ YES	☐ NO	☐ N/A
2.	Is contaminated wash water properly contained and disposed of?	☒ YES	☐ NO	☐ N/A
3.	Are all pieces of equipment inspected for proper decontamination before leaving site?	☒ YES	☐ NO	☐ N/A
4.	Are all pieces of equipment being cleaned per HASP?	☒ YES	☐ NO	☐ N/A

R. Welding and Cutting ☐ N/A

1.	Are fire extinguishers present at welding operations?	☒ YES	☐ NO	☐ N/A
2.	Are confined spaces such as tanks, tested prior to welding?	☒ YES	☐ NO	☐ N/A
3.	Are Hot Work Permits available?	☒ YES	☐ NO	☐ N/A
4.	Are proper gloves, helmets, aprons available for welding?	☒ YES	☐ NO	☐ N/A
5.	Are welding machines properly grounded?	☒ YES	☐ NO	☐ N/A
6.	Are spare oxygen and gas cylinders stored a minimum of 20 feet apart when not in use?	☒ YES	☐ NO	☐ N/A
7.	Are only trained personnel permitted to operate welding and cutting equipment?	☒ YES	☐ NO	☐ N/A
8.	Are welding screens available for use?	☒ YES	☐ NO	☐ N/A

S. Excavation, Trenching, and Shoring ☐ N/A

1.	Are employee protection systems in place to protect employees?	☒ YES	☐ NO	☐ N/A
2.	Are guardrails or fences placed around excavations near pedestrian or vehicle thoroughfares?	☒ YES	☐ NO	☐ N/A
3.	Are utilities located and marked?	☒ YES	☐ NO	☐ N/A
4.	Are ladders used in trenches over 4 feet deep?	☒ YES	☐ NO	☐ N/A
5.	Is material excavated placed a minimum of 2 feet from the excavation?	☒ YES	☐ NO	☐ N/A
6.	Is a competent person designated for the excavation?	☒ YES	☐ NO	☐ N/A

T. Confined Spaces ☐ N/A

1.	Have employees been trained in the hazards of CS?	☒ YES	☐ NO	☐ N/A
2.	Are CS entry permits available on site?	☒ YES	☐ NO	☐ N/A
3.	Is a CS rescue team (on or off site) available?	☒ YES	☐ NO	☐ N/A
4.	Are CS entry procedures being followed?	☒ YES	☐ NO	☐ N/A

U. Radiation ☒ N/A

1.	Have employees been trained in the hazards of radiation or received Radiation Worker Training?	☐ YES	☐ NO	☐ N/A
2.	Is the NRC Form 3 or Agreement State equivalent posted?	☐ YES	☐ NO	☐ N/A
3.	Does the site possess radiation detection instrumentation?	☐ YES	☐ NO	☐ N/A
4.	Has the instrumentation been calibrated in the past 12 months?	☐ YES	☐ NO	☐ N/A
5.	Are the calibration papers on file for the instruments on site?	☐ YES	☐ NO	☐ N/A
6.	Is dosimetry issued at the site?	☐ YES	☐ NO	☐ N/A
7.	Has NRC Form 4 been completed for individuals' assigned dosimetry?	☐ YES	☐ NO	☐ N/A
8.	Are routine radiological surveys conducted in offices and break rooms?	☐ YES	☐ NO	☐ N/A
9.	Air monitoring program established?	☐ YES	☐ NO	☐ N/A
10.	Have Radioactive Source Instruments been leaked checked in the past six months?	☐ YES	☐ NO	☐ N/A
10.	Do Radioactive Source Instruments have proper postings posted at storage locations?	☐ YES	☐ NO	☐ N/A
11.	Has a public dose exposure estimate been performed for Radioactive Source Instrument storage areas?	☐ YES	☐ NO	☐ N/A
	If "yes" is annual dose to the public less than 100 mrem/yr?	☐ YES	☐ NO	

Section 4: Equipment/Vehicles

V. Motor Vehicles

1.	Are vehicles inspected before each use?	☒ YES	☐ NO	☐ N/A
2.	Are persons licensed or certified for the equipment they operate?	☒ YES	☐ NO	☐ N/A
3.	Are unsafe vehicles tagged and reported to supervision?	☒ YES	☐ NO	☐ N/A
4.	Are vehicles shut down before fueling?	☒ YES	☐ NO	☐ N/A
5.	When backing vehicles, are spotters provided?	☒ YES	☐ NO	☐ N/A
6.	Is safety equipment on vehicles?	☒ YES	☐ NO	☐ N/A
7.	Are loads secure on vehicles?	☒ YES	☐ NO	☐ N/A

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W. Heavy Equipment

1.	Is heavy equipment inspected before each use?	☒ YES	☐ NO	☐ N/A
2.	Is defective equipment tagged and taken out of service?	☒ YES	☐ NO	☐ N/A
3.	Are project roads and structures inspected for load capacities and proper clearances?	☒ YES	☐ NO	☐ N/A
4.	Is heavy equipment shut down for fueling and maintenance?	☒ YES	☐ NO	☐ N/A
5.	Are back-up alarms installed and working on equipment?	☒ YES	☐ NO	☐ N/A
6.	Have Operators been properly trained to operate the equipment they are using?	☒ YES	☐ NO	☐ N/A
7.	Are riders prohibited on heavy equipment?	☒ YES	☐ NO	☐ N/A
8.	Are guards and safety devices in place and used?	☒ YES	☐ NO	☐ N/A
9.	Are barriers set up to prevent personnel from entering the area within the swing radius of track equipment?	☒ YES	☐ NO	☐ N/A
10.	If not, are warning signs posted on both sides and the rear of track equipment warning employees to stay out of the swing radius and have site personnel been trained to stay out of the swing radius areas?	☒ YES	☐ NO	☐ N/A
11.	Are annual inspection reports for all cranes available on site?	☒ YES	☐ NO	☐ N/A
12.	In Michigan, are annual inspection reports for all track excavators available on site?	☐ YES	☐ NO	☒ N/A

Section 5: Comments and Recommendation (attach extra sheets if necessary)

Item No.	
E 8,9,10	Institute a bloodborne pathogen training program and offer Hep B shots to first aid and CPR trained individuals.
N 5	Establish protection for compressed gas cylinders from rain, snow etc.
R 8	Welding screens are not needed as long as a 20' boundary is established to protect workers from the UV radiation.

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Sevenson Environmental Services, Inc.

Health and Safety Inspection Summary Form

Inspection Date: April 24, 2002 Inspector: Paul Hitcho

Site: Federal Creosote Superfund Site

Project Manager: Gordon McDonald

Superintendent: Perry Novak

Site Safety and Health Officer: Eric Tschudi

OPERATIONS REVIEWED:

OU-1 Phase 1 Lagoon B
OU-2 Phase 1 14 Additional Properties

Corrective Measures Required? ☒ Yes ☐ No

If Yes, please briefly describe issues and suggested corrective measure(s). See completed Site Inspection Form for details.

Institute Bloodborne Pathogen Program
Establish protection for gas compressed gas cylinders

April 26, 2002
Date Prepared

Paul Hitcho
Inspector Signature

Distribution: Director of Health and Safety (Paul Hitcho VP, Ph.D., CIH)
Project Manager (Gordon McDonald)
Superintendent (Perry Novak)
Health and Safety Officer (Eric Tschudi)

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Appendix L

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

DATE: July 3, 2002

SUBJECT: Final Inspection of OU1, Phase 1 Properties

FROM: Rich Puvogel, Remedial Project Manager R.P.
Central New Jersey Remediation Section

TO: File

This memo documents the final inspection of the OU1, Phase 1 properties, also known as the Lagoon B properties. The inspection was conducted by myself and the New Jersey Department of Environmental Protection project manager, Drew Sites.

The inspection of the Lagoon B properties was conducted at 2:00 PM on the afternoon of July 2, 2002. During the final inspection of the Lagoon B properties Mr. Sites and I walked through each of the properties and inspected newly planted ground cover, trees, and replacement fencing, drainage swales, curbing, gutters, and sidewalks.

Mr. Sites and I identified no issues during the final inspection and considered the work complete.